

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

NEW ENGLAND CARPENTERS HEALTH  
BENEFITS FUND; PIRELLI ARMSTRONG  
RETIREE MEDICAL BENEFITS TRUST;  
TEAMSTERS HEALTH & WELFARE FUND  
OF PHILADELPHIA AND VICINITY;  
PHILADELPHIA FEDERATION OF  
TEACHERS HEALTH AND WELFARE  
FUND; DISTRICT COUNCIL 37; AFSCME -  
HEALTH & SECURITY PLAN; JUNE  
SWAN; MAUREEN COWIE and BERNARD  
GORTER,

Plaintiffs,

v.

FIRST DATABANK, INC., a Missouri  
corporation; and McKESSON  
CORPORATION, a Delaware corporation,

Defendants.

C.A. No. 1:05-CV-11148-PBS

**DECLARATION OF STEVE W. BERMAN IN SUPPORT OF CLASS PLAINTIFFS'  
REPLY TO McKESSON'S OPPOSITION TO AGGREGATE DAMAGES FOR  
THE TPP CLASS AND McKESSON'S MOTION TO DECERTIFY THE CONSUMER  
CLASS AND CLASS PLAINTIFFS' PROFFER OF EVIDENCE COMMON TO THE  
CLASS CONTAINING ADMISSIONS BY McKESSON AS TO  
THE SCHEME'S IMPACT ON THE CLASS**

I, Steve W. Berman, duly declare as follows:

1. I am a partner of Hagens Berman Sobol Shapiro LLP, resident in its Seattle, Washington, office, and I am co-lead counsel for the plaintiffs in the above-captioned matter. I submit this declaration in support of Class Plaintiffs' Reply to McKesson's Opposition to Aggregate Damages for the TPP Class and McKesson's Motion to Decertify the Consumer Class and Class Plaintiffs' Proffer of Evidence Common to the Class Containing Admissions by McKesson as to the Scheme's Impact on the Class.

2. Attached hereto are true and correct copies of the following exhibits:

1	Expert Report of Raymond S. Hartman dated September 14, 2007
2	Table 1 from Dr. Hartman's September 14, 2007 Expert Report
3	Attachment E from Dr. Hartman's September 14, 2007 Expert Report
4	Deposition of William F. Kiefer (July 24, 2007) (pertinent pages only)
5	Letter from Thomas Dee to Jeffrey Kodroff; Declaration of Stuart L. Bascomb and an e-mail from George Paz re: AWP pricing dated April 26, 2002 (ESI-414-00005438-39) ( <b>FILED UNDER SEAL</b> )
6	Deposition of Nancy Stalker (July 17, 2007) (pertinent pages only)
7	Deposition of Rosaria Esperon (Nov. 6, 2006) (pertinent pages only)
8	Draft Letter from Ellen J. Perlman dated November 6, 2003 (ESI-414-00001883)
9	Email from Bob James to Greg Yonko dated September 12, 2001 (MCKAWP 0065885)
10	Email from Bob James to Greg Yonko, <i>et al.</i> dated January 7, 2002 (MCKAWP 0065895)
11	Email from Bob James to Karl Lirette, <i>et al.</i> dated April 12, 2002 (MCKAWP 0084327)
12	Email from Bob James to Greg Yonko dated April 25, 2002 (MCKAWP 0069616) (pertinent page only)
13	Email from Robert James, dated June 17, 2002 (MCKAWP 0084485)
14	Email from Robert James, dated September 18, 2001 (MCKAWP 0068514)
15	Email from Jeff Wallis to Robert James dated May 21, 2002 (MCKAWP 0069726)
16	Email from Larry Secrest to Robert James dated November 27, 2002 (MCKAWP 0069513)
17	Email from Robert James to Dan Connelly dated October 11, 2002 (MCKAWP 0069901)
18	Email from Robert James to David Vucurevich with attachment dated October 25, 2002 (MCKAWP 0069911-13)
19	Excerpt from a McKesson Monthly Status Report, dated October 2002 (MCKAWP 0066191)
20	Excerpt from a McKesson Monthly Status Report, dated December 2002 (MCKAWP 0071671)

21	Email from John Bonner, dated July 29, 2004 (MCKAWP 0076289)
22	Email from Robert James, dated July 28, 2004 (MCKAWP 0068131-32)
23	Email from Robert James, dated April 20, 2004 (MCKAWP 0071694)
24	Email from David Silko to Frank Han, <i>et al.</i> dated September 28, 2004 (MCKAWP 0078652)
25	Exhibit C to the Expert Report of Raymond S. Hartman dated September 14, 2007
26	General Docket Order dated November 25, 2005 from the First Circuit Court of Appeals entered in <i>In re Pharm. Indus. Average Wholesale Price Litig.</i> , No. 06-8008 (1st Cir.)

I certify under penalty of perjury that the foregoing is true and correct.

Executed this 29th day of October, 2007.

**/s/ Steve W. Berman**

STEVE W. BERMAN

**CERTIFICATE OF SERVICE**

I hereby certify that a true copy of the above document was served upon the attorney of record for each other party through the Court's electronic filing service on October 29, 2007.

/s/ Steve W. Berman  
Steve W. Berman

# Exhibit 1

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

NEW ENGLAND CARPENTERS  
HEALTH BENEFITS FUND; PIRELLI  
ARMSTRONG RETIREE  
MEDICAL BENEFITS TRUST;  
TEAMSTERS HEALTH & WELFARE  
FUND OF PHILADELPHIA AND  
VICINITY; and PHILADELPHIA  
FEDERATION OF TEACHERS HEALTH  
AND WELFARE FUND,

Plaintiffs,

v.

FIRST DATABANK, INC., a Missouri  
Corporation; and McKESSON  
CORPORATION, a Delaware Corporation,

Defendants

Civil Action No. 1:05-CV-11148-PBS

**EXPERT REPORT OF RAYMOND S. HARTMAN**

## I. QUALIFICATIONS

1. My name is Raymond S. Hartman. I have previously presented my qualifications to this Court in this matter, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc., and McKesson Corporation*.<sup>1</sup> Attachment A includes a copy of my most recent CV and a listing of appearances at deposition and trial within the preceding four years. For my work in this matter, I am being compensated at the rate of \$475 per hour.

## II. OVERVIEW AND SUMMARY

2. I have been asked by Plaintiffs' Counsel to evaluate the effects McKesson's activities had on the members of the Class. I have been asked to analyze whether causation, liability and injury can be proven on a class-wide basis. I have been asked to evaluate whether aggregate injury to the Class can be measured and to identify possible formulaic methods for that measurement. I have done so in my previous Declarations (December 2006 and March 2007).

3. I have now been asked by Counsel to implement the damage methodology I previously put forward. Having done so, I find aggregate damages for all persons and entities injured over the entire Class Period to be \$6.3 billion in nominal dollars and \$7.9 billion when I apply prejudgment interest. These damage calculations are presented in Table 2. I have also been asked to present damage calculations in a format that will allow the Court to consider alternative damage periods, as discussed in Section VI.

I reserve the right to supplement the opinions put forward in this Declaration as I receive additional data and information. In rendering my determinations, I have relied upon the materials identified in Attachment B of this report. The materials relied upon are the types of materials reasonably relied upon by experts in my field in forming opinions and drawing inferences on a subject.

4. Finally, I have been asked to address in my discussion of impact and causation the affirmative and rebuttal arguments put forward by Dr. Willig in his May 2007 Declaration.<sup>2</sup>

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<sup>1</sup> Declaration of Raymond S. Hartman in Support of Plaintiffs' Motion for Class Certification, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS, July 14, 2006; updated December 20, 2006 (hereafter *Hartman FDB Declaration* and *Hartman Updated FDB Declaration*). I shall also refer, where necessary, to my March 18, 2007 Rebuttal Declaration in Support of Plaintiffs' Motion for Class Certification (hereafter *Hartman FDB Rebuttal Declaration*) and my September 27, 2006 Declaration, *Impact and Cost Savings of the First Databank Settlement Agreement*, submitted in support of the proposed *FDB Settlement Agreement* (hereafter *Hartman FDB Settlement Declaration*).

<sup>2</sup> Rebuttal Expert Declaration of Robert D. Willig, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts,

5. I conclude that all purchasers of the challenged drugs were impacted and injured by the Scheme, which inflated the amounts paid at retail for drug reimbursement. I conclude that this impact, injury and resulting economic damage occurred immediately upon the increase in Spread by drug and that it endured through the length of the Class Period. My conclusions are based upon the following:

- a) The behavior of McKesson, who is clearly quite sophisticated concerning the behavior and conduct of the relevant competitive entities and who clearly believed that the Scheme would significantly benefit retail pharmacies immediately and over time.
- b) The discovery materials demonstrating that PBMs and TPPs did not know of the Scheme and that those PBMs that did know of the general increase in FDB Spreads were remarkably silent as to the extent of those increases and their impacts.<sup>3</sup>
- c) The nature of competition among PBMs for TPP business is not “fierce.” It is constrained by the institutional realities determining how PBMs compete. This competition is constrained by the economic reality that the relevant PBMs are parts of larger health-care-provider conglomerates, which maximize profit over lines of business other than PBM competition for TPPs. Those lines of business, mainly the affiliated mail order and retail pharmacy business, benefited from the Scheme. As such, there was no incentive for PBMs to reveal and mitigate the Scheme.
- d) Finally, and most importantly, detailed statistical analysis of reimbursement data for the challenged drugs demonstrates that the impact and injury of the Scheme was immediate and lasting. There is no statistical evidence of systematic push-back or recoupment of the damages from the Scheme.

6. My Declaration proceeds as follows. In Section III, I briefly discuss the classes certified and the challenged behavior. In Section IV, I provide quantitative analysis and evidence of the immediate and enduring impact of the Scheme. Section V discusses why Defendant’s assertions fail, as a matter of economics. In Section VI, I present my damage calculations. I provide additional detail of my findings in Attachments D through F: Attachment D develops in detail the reasons why McKesson’s assertions fail; Attachment E addresses the PBM industry and how competition occurs; and Attachment F provides detail for my econometric results and damage calculations.

7. I incorporate into this report the conclusions of my two previous reports, appended in Attachment C.

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C.A. No. 1:05-CV-11148-PBS, May 7, 2007 (hereafter May 2007 Willig Declaration). I will also refer to Expert Report of Robert D. Willig, January 24, 2007 (hereafter January 2007 Willig Declaration).

<sup>3</sup> I make the following distinctions regarding knowledge of the Scheme. I find no evidence that TPPs or PBMs knew of the Scheme. I find evidence that a limited number of entities realized that FDB had arbitrarily but systematically increased the Spreads for a subset of drugs.



### III. THE RECORD TO DATE

#### A. Class Certification

8. In her August 27, 2007 *Memorandum and Order*, Judge Saris certifies the following Classes:

“Class 1, Consumer Purchasers: All individual persons who paid, or incurred a debt enforceable at the time of judgment in this case to pay, a percentage co-payment for the Marked Up Drugs during the Class Period based on AWP, pursuant to a plan, which in turn reimbursed the cost of brand-name pharmaceutical drugs based on AWP.”

“Class 2, Third-Party Payors: All third-party payers (1) the pharmaceutical payments of which were based on AWP during the Class Period; (2) that made reimbursements for drugs based on an AWP that was marked up from 20 to 25% during the term of its contract with its PBM or with another entity involved in drug reimbursement; and (3) that used First DataBank or Medispan for determining the AWP of the marked up drugs.”<sup>4</sup>

In doing so, the Court notes the following. The “Marked Up Drugs” are “all of the drugs identified in Exhibit A to the Second Amended Complaint and consist of certain brand-name drugs only.” Class 1 is certified for liability and for damages. Class 2 is certified for liability and equitable relief. Certification of Class 2 for the purpose of damages depends upon the feasibility of the damage methodology that I put forward in this Declaration.

9. The Court notes that Class 1 “consists only of members who made percentage co-payments under a plan. ... [C]onsumers whose flat co-payments were increased ... will not participate ... Similarly, plaintiffs have not requested that the class include consumers without insurance who paid the full ‘usual and customary’ retail price.”<sup>5</sup>

10. Upon reviewing the Court’s order regarding usual and customary (U&C) charges, I raised this issue with class counsel. There is no doubt in my mind that customers paying U&C were impacted and my original class certification analysis implicitly included such customers. It was not until the Court flagged this issue that I realized the definition of the Class did not include such class members, as I believe it should have. I have demonstrated in my March 2007 Declaration that well-recognized sources of pharmaceutical industry data have documented that U&C payments by uninsured cash payers are, on average, related to and greater than AWP over the Class Period. These

<sup>4</sup> Memorandum and Order, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS, August 27, 2007 (hereafter *Memorandum and Order*), p. 2. The Court refers to Exhibit A as attached to the Second Amended Complaint, which contains 1442 NDCs. Therefore, my analysis in this Declaration focuses on those NDCs, though I refer to the list as Appendix A. See Second Amended Class Action Complaint, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS, November 30, 2006 (hereafter *Complaint*).

<sup>5</sup> *Ibid.*, footnote 5, p. 13.

sources can be used to calculate how U&C payments have been related to AWP in a formulaic way.<sup>6</sup> Therefore, as a matter of economics, uninsured cash payers were impacted, injured and damaged on a Class-wide basis by the inflation of AWP. Indeed, the bulk of consumer damages are in this group, and these are the most vulnerable of payors. I address the issue of the relationship of U&C payments to AWP in greater detail in Attachment F, Section IV.

11. The aggregate damages of this Proposed Consumer Class of U&C payors, which I will call Proposed Class 3, can be calculated formulaically (see Attachment F, Section IV). I do so here for several reasons. First, my review of the Second Amended Complaint revealed that this group of consumers had not been included and should have been. Second, this Class was certainly less able to mitigate the effects of the Scheme than Class 1 and Class 2. Finally, I wanted to provide the Court with analysis and damage calculations, should the Court want to reconsider inclusion of this Class and the amount of the damages to this Class.

12. I note also that calculation of damages to Class 1 requires the calculation of damages to Class 2, since the damages to Class 1 are simply a percentage of the damages (paid as coinsurance) to the TPPs/insurers that insure those consumers. In order for Class 1 to be certified for liability and damages, I (and any economist) require calculation of the damages to the TPPs insuring those consumers.

## B. The Challenged Conduct

13. In certifying both Classes for liability, the Court acknowledges Plaintiffs' theory of causation.<sup>7</sup> I cite additional evidence demonstrating the existence of and reasons for the Scheme in my Attachment D.

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<sup>6</sup> *Hartman FDB Rebuttal Declaration*, ¶ 20.b. I note therein that the U.S. General Accountability Office states "AWP is typically less than the U&C price. ... The difference between the levels of AWP and U&C prices for brand drugs narrowed slightly during the time period we analyzed. Whereas in the first quarter of 2000 AWP was on average about 91% of the U&C price for the same drug, by the fourth quarter of 2004 AWP was on average about 94% of the U&C price." See United States Government Accountability Office, Report to Congressional Requesters, *Prescription Drugs: Price Trends for Frequently Used Brand and Generic Drugs from 2000 through 2004*, GAO-05-779, August 2005, pp. 5, 12. These findings are based upon a survey of retail transactions data described at p. 4 of the Report. I describe how these and additional survey data can be used to calculate the formulaic relationship between U&C and AWP in Section IV of Attachment F.

I note further that IMS data allows me to calculate formulaically the relationship between U&C and AWP **by uninsured cash payers for each and every drug** in my sample, but only over the last 24 months (IMS maintains and offers these data only for the prior 24 months). I have selectively done so and found that U&C reimbursement is formulaically related to AWP similarly to the way TPP reimbursement is related to AWP. I understand that Verispan provides these data since August 2001. If I had been provided with these Verispan data, I could have formulaically estimated impact, injury and damages with the implementation of the Scheme on a monthly basis on a drug-by-drug basis. As I have noted elsewhere, Verispan refused to provide these data.

<sup>7</sup> The Court cites specific examples of the challenged behavior in the Motion/Status Hearing, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS, May 22, 2007, (hereafter

14. In this context, it is useful to cite the Court (emphases added):

“McKesson implemented this scheme in order to provide a greater spread to those important retail pharmacy clients like Rite Aid and Wal-Mart **as well as its own pharmacy related businesses**. McKesson boasted that the increase in AWP resulted in ‘**more than 3 times the profit as before**.’ (Pl.’s Mem Supp. Class Cert. Ex. 39, Ex. 9 (giving examples of increased profits for its customers ‘**now and into the future**’).)”<sup>8</sup>

15. The documents referenced by the Court<sup>9</sup> identify two important issues that I discuss below.

- a) First, the Scheme benefited market entities with retail and/or mail-order pharmacies. Since the largest PBMs are formally affiliated with significant mail-order and/or retail pharmacy lines of business, **those PBMs (that is, their parent corporations) benefited immediately and substantially (“more than 3 times the profit as before”) from the Scheme**. As a result, any competition by PBMs for TPPs that threatened those increased profits would be undertaken with hesitation and some caution. As discussed below and in Attachment E, the resulting PBM competition for TPP business would not be “fierce,” as the Court has described PBM competition generally.<sup>10</sup>
- b) Second, McKesson predicted that the increased profits would occur “now and into the future,” indicating that McKesson did not expect or predict a rapid “push-back” or recoupment by TPPs. **Indeed, industry response to the recent Settlement in this matter suggests that those benefiting from the Scheme will not allow push-back even now.**<sup>11</sup>

16. While acknowledging the existence of the Scheme, the Court articulates reservations bearing upon the extent to which the Scheme may have been mitigated by market-wide awareness of publicly-available price information (AWPs and WACs) and the timing by which the Scheme may have been mitigated by competitive “push-back” from TPPs through the competitive behavior of PBMs and TPPs.

17. In attempting to shape the Court’s opinions regarding these issues, McKesson’s counsel have asserted an extremely expansive pattern of information sharing and

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*Motion/Status Hearing*), pp. 16-17 and 19-20. Examples are also cited in the *Memorandum and Order*, pp. 5-8.

<sup>8</sup> *Memorandum and Order*, p. 8.

<sup>9</sup> Documents referenced by Court are: MCKAWP 0069608-9 and MCKAWP 0068131-2.

<sup>10</sup> At p. 4 of the *Memorandum and Order*, the Court states that “Competition among PBMs for the business of TPPs is fierce.”

<sup>11</sup> Express Scripts, Inc., Annual Report 2006, at p. 21 states “In the absence of any mitigating action on our part, the proposed reduction in FDB’s AWP would have a material adverse effect on the margin we earn on home delivery transactions. It may also create disruption in our retail networks due to the adverse impact on AWP-based retail pharmacy pricing. However, most of our contracts with clients and retail pharmacies contain terms we believe will enable us to mitigate the adverse effect of this proposed reduction in FDB’s reported AWP.” Implicitly this statement belies the notion that PBMs actually negotiated to mitigate the impact of the Scheme on TPPs.

competition. ***This pattern of information sharing and competition simply did not exist.*** For example, Mr. Goldman asserts to this Court (*emphasis added*):

“[Plaintiffs] say, oh, no, nobody knew the ‘scheme.’ ... It’s not nobody knew about the differential went up because ***they all did. They all knew, they all were told...*** Here’s only our proposition, and we show this from the PBM. ... ***The PBMs all knew it. They knew this difference occurred. They told the TPPs this. I want to emphasize that they told them that.***”<sup>12</sup>

Put simply, Defendant’s counsel and their Expert Dr. Willig conclude that ***the 5% Scheme simply would not work, could not work and did not work*** because all TPPs and PBMs knew and “pushed-back” against the inflation induced by the Scheme.

18. I have examined McKesson’s proffer and conclude that McKesson’s counsel make these expansive assertions with little evidence of information sharing, TPP “push-back,” recontracting and/or recoupment. In Attachment D, I analyze the evidence regarding “push-back” or recoupment.

19. To date, it appears that the Court has responded agnostically to McKesson’s assertions,<sup>13</sup> perhaps because they are implausibly expansive.

#### IV. QUANTITATIVE ANALYSIS OF THE IMMEDIATE AND ENDURING IMPACT OF THE SCHEME

##### A. Overview

20. The evidence demonstrating causation and common impact is incontrovertible. When implemented, the 5% Scheme had an immediate and common impact upon all members of Classes 1, 2 and proposed Class 3 reimbursing on the basis of the AWP’s for those NDCs. Everything else equal, the Scheme immediately increased the

<sup>12</sup> Motion/Status Hearing, pp. 44-46.

<sup>13</sup> In colloquy with Plaintiffs’ and Defendant’s counsel, the Court asks the following pertinent questions (Motion/Status Hearing):

- “So within a year or two of the bump-up of the price, you’ve already seen adjustments. Why wouldn’t I just be able to at most do like a year, a year after the switch-on?” (p. 8).
- “They’re locked into a contract for maybe a year or two years, but then they do push back, right?” (p. 8).
- “Well, at least some do and some don’t. I mean, so the question is, how could you deal with that issue if there’s going to be a – I would assume that all of them have contracts, and most of them probably are for a year. Maybe some are for two and maybe some for three. Is there a way of dealing with the damage issue in a way that could deal with the fact that you wouldn’t take damages past that first year when they’re locked into a certain price?” (pp. 8-9).
- “Now, if I don’t go as far as you want me to go, what is the alternative to the years that are locked in? What are in general the contract years?” (p. 14).
- “Maybe I could just say for a year after the change so that Dr. Hartman could more predictably calculate a damage figure, because how would he know in advance how many have a one-year contract, two-year contract, three-year contract, et cetera?” (p. 36).

reimbursement rates for the challenged drugs on every script reimbursed.<sup>14</sup> McKesson has put forward no evidence demonstrating that the 5% Scheme did not have this immediate and common impact by NDC. McKesson has put forward no evidence demonstrating that everything else was not equal at the precise time the 5% Scheme was implemented by NDC. The Court has noted this fact.<sup>15</sup>

21. McKesson incorrectly asserts that price information, knowledge about price information and related competitive behaviors were such that these immediate overcharges were transient at best and were “competed away” or “recouped” very quickly. In support of these incorrect assertions, Dr. Willig put forward data summarizing increases in discounts (d) off AWP and decreases in dispensing fees (df) over the period 1995 through 2004 for transactions at retail pharmacies and mail-order.<sup>16</sup> While d does increase and df does decrease, the changes are not extraordinary; that is they are consistent with trends over the 1995-2004 period.

22. I first addressed the failure of these assertions by McKesson in my March 2007 Rebuttal Declaration (appended as Attachment C.II). Using standard and correct trend analysis, I demonstrated there was no measurable change in the time patterns of discounts off AWP (d) and dispensing fees (df) induced by the Scheme. Since these two determinants of reimbursement are ***the first line of defense for TPPs to push-back or mitigate increases in AWP***, there is no observable measure of push-back or recoupment by TPPs in their first line of defense.<sup>17</sup> If there had been a measurably increased push-back by TPPs to the measurably larger growth rate of AWP for the challenged drugs, as Dr. Willig asserts,<sup>18</sup> we should see a distinct change in trend in d and df. ***We do not see any such change.***

23. Dr. Willig attempts to rebut my demonstration with an econometric analysis. As I demonstrate in detail in Section III to Attachment F of this Declaration, all of the models and equations that Dr. Willig has specified and estimated suffer from a variety of standard technical econometric problems, including simultaneity bias, omitted variable

<sup>14</sup> In my December 2006 *Updated Declaration in Support of Class Certification*, I have demonstrated the extent of the Scheme by NDC in ¶¶ 14-15; the impact, injury and damages induced by the Scheme in ¶¶ 12-13 & 20-22; and how I formulaically correct for such factors as rebates in my damage model in ¶¶ 23-25. I append a copy of this Declaration as Attachment C.I.

<sup>15</sup> At p. 17 of the *Motion/Status Hearing*, Judge Saris states “You’ve demonstrated causation and impact and injury. The issue I have is damages.”

<sup>16</sup> See the January 2007 Willig Declaration at Table 2. Over the period relevant to this matter, Dr. Willig found that the average discount rate, d, increased at retail from 13.9% to 14.8%, an increase of 0.9 percentage points over three years; or 0.3 percentage points per year; or 0.025 percentage points per month. He found that df at retail declined by \$0.26 per script over three years; or \$0.087 per year; or \$0.0072 per month.

I note in passing that another source of PBM survey information, Atlantic Information Services, Inc. (AIS), Health Plan Strategies for Pharmacy Benefits, 2005, p. 372, found that “the dispensing fee paid by PBMs has increased 12%” over the period Q3:2000 to Q1:2005.

<sup>17</sup> See *Hartman FDB Rebuttal Declaration*, ¶ 9.

<sup>18</sup> Dr. Willig documents the measurably greater increase in average AWP for the Marked Up Drugs in Table A1 of his May 2007 Declaration.



bias and measurement error bias. All of the statistics to which he appeals demonstrating that his models are preferred are statistically biased and unreliable. His statistical analysis is without evidentiary value.

24. I further address the failure of McKesson's economic arguments supporting "push-back" in greater detail in Section V. I now summarize the statistical analysis I present in Attachment F, which demonstrates there was no systematic push-back. This detailed analysis is the basis for my damage model.

## **B. Statistical Analysis Demonstrates No Systematic Push-Back**

25. As discussed in detail in Attachment F, my analysis demonstrates that there was no systematic push-back for the Appendix A drugs. To illustrate this analysis, I turn to the four drugs cited by Dr. Willig *as being important signals to "those who specialize in monitoring drug prices."*<sup>19</sup> These four drugs are Lipitor 10mg and 20 mg; Plavix 75 mg; Prevacid 30 mg and Wellbutrin SR 150 mg. Figures 1.a) through 1.e) present graphical representations of the relationships among the reimbursement rate (AA), WAC and AWP for these four drugs by drug dosage. Using these four drugs, Dr. Willig attempts to raise conjecture to the level of evidence, stating "It is difficult to believe that an AWP increase of this magnitude [the magnitude at the time of the implementation of the Scheme, which he reports in his Table 3] would go unnoticed by those who specialize in monitoring drug prices."<sup>20</sup>

26. My data allows me to test this hypothesis in the real world. The data I use for my analysis are micro data, that is, data based upon individual real-world transactions or summaries of individual transactions. The transactions reflect claims paid by TPPs and Medicaid and amounts paid by uninsured cash payers. Such data are understood to produce more accurate descriptions of market realities.<sup>21</sup> The source for my data on drug reimbursements is one of the most comprehensive surveys of reimbursement paid by TPPs, uninsured cash payers and Medicaid – the National Prescription Audit (NPA) of IMS. I merge these real-world IMS data with FDB data on AWP and WAC by NDC. I discuss my data further in Attachment F.

27. Using these data sources, the relevant list prices (AWP and WAC) and transaction prices (AA) are presented in the top panel of Figures 1.a) through 1.e) for each of these five drug/dosages (four drugs with two distinct dosages of Lipitor). Note, for example, that the WACs of Lipitor are increased in January of each year and in July of 2003. With each increase in WAC, the AWP increases to  $\lambda$ \*WAC, where  $\lambda$  is the multiple 1.20 *prior*

<sup>19</sup> See ¶ 51 of Attachment D to this Declaration and its related footnotes. Note that I include two dosages of Lipitor.

<sup>20</sup> January 2007 Willig Declaration, ¶ 66. The increases he reports are 13.5% for Lipitor 10mg; 16.9% for Plavix 75mg; 11.5% for Prevacid 30mg; and 14.3% for Wellbutrin 150 mg.

<sup>21</sup> Monthly micro data summarizing millions of transactions by drug/dosage and merged with NDC-specific list price data are known to provide much better estimates of market conditions than aggregated indices summarizing all drugs purchased in a given year. Dr. Willig uses such aggregate data in the econometric models he presents in Appendix C of his May 2007 Declaration. As I discussed in ¶ 23, his econometric analysis fails.

to January 2002 and 1.25 *after* January 2002. Hence, in January 2002, the AWP increased by the amount that WAC increased **plus** the increase in the mark-up from 1.20 to 1.25.

28. The reimbursement rate (AA) in the top panel is found to track consistently with AWP rather than WAC, as I have contended throughout my analysis. This fact is made even more explicit by the ratios, AA/AWP and AA/WAC, presented in the bottom panels of Figures 1.a) to 1.e).

29. Since the ratios in Figures 1.a) to 1.e) are important to this analysis and the analysis Dr. Willig has already put forward in his May 2007 Declaration,<sup>22</sup> it is useful to describe them in some detail. TPP and PBM contracts define the amount allowed to be paid at retail per script to be

$$(1) \quad AA = AWP(1-d) + df = AWP \cdot p + df = \lambda \cdot WAC \cdot p + df.$$

In Equation (1), d is the discount off AWP; (1-d) is summarized as p; df is the dispensing fee; and  $AWP = \lambda \cdot WAC$ .

30. We know that AWP is the basis for drug reimbursement at retail. Using the ratio AA to AWP, we can quantify the behavior of negotiated changes in the discount off of AWP (d) and the dispensing fee (df). AA/AWP demonstrates whether and by how much the AWP basis for AA changes over time. We know that drug reimbursement AA is driven by AWP and that drug acquisition cost of retailers is driven by WAC. Using AA and WAC, we can examine the behavior of negotiated changes in d and df on the amount by which reimbursement rates are marked up above cost by observing the patterns of AA/WAC. More specifically,

a) Since  $AA/WAC = \{\lambda \cdot WAC \cdot p + df\}/WAC = \lambda \cdot p + df/WAC$ ,

- If AA increases immediately with the Scheme, AA/WAC should increase immediately by  $0.05 \cdot p + df/WAC$ .<sup>23</sup>
- If TPPs are able to “push-back” against or recoup from the reimbursement increases induced by the Scheme, AA/WAC should decrease as p and df decrease.

b) Since  $AA/AWP = \{p \cdot AWP + df\}/AWP = p + df/AWP$ ,

- If TPPs are able to “push-back” against or recoup from the reimbursement increases induced by the Scheme, AA/AWP should decrease as p and df decrease.

31. Turning to the data, for Lipitor (Figures 1.a) and 1.b)), once the Scheme is implemented in January 2002, the mark-up of AA above WAC (AA/WAC) **increases**

<sup>22</sup> In order to describe and measure TPP “push-back” through d and df, Dr. Willig uses the measure Average Payment Percentage (APP), which he defines as  $APP = C = AA/AWP = \{AWP(1-d) + df\}/AWP$  in footnote 67 and Appendix C of his May 2007 Declaration. I use that measure and the analogous measure AA/WAC.

<sup>23</sup> These formulations are more precise statements of my damage model put forward in ¶¶ 21-25 of my December 2006 Declaration. See Attachment C.I.

***almost immediately and remains increased*** throughout the Class Period.<sup>24</sup> ***This is the measure of interest to the Court for a finding of impact and injury – the increased mark-up of drug payments (AA) above drug costs (WAC).*** The ratio of AA/AWP remains essentially constant. This is the measure of interest to the Court for a finding of mitigation or push-back by the TPPs. The same results are found for the other three drugs (see Figures 1.c) to 1.e)).

32. If these drugs and the changes in their AWP were such important signals, we would certainly expect that these drugs would be the focal point of initial PBM and TPP recontracting efforts to increase discounts off AWP (d) and reduce dispensing fees. ***The data for reimbursements paid by Class members do not support Dr. Willig's and McKesson's conjectures.***

- a) For these drugs, the measures of ***AA/AWP are essentially constant*** over the Class Period. If there were any evidence of push-back or recoupment through d or df, we should see AA/AWP decrease over time. ***I do not see any evidence of push-back or mitigation at the drug/dosage level.***
- b) With the implementation of the Scheme in January 2002 for these four drugs, reimbursement amounts paid by Class members relative to WAC (AA/WAC) ***increased immediately***, by the following amounts: Lipitor 10mg by 3.94%, Lipitor 20mg by 4.22%, Plavix 75mg by 4.38%, Prevacid 30mg by 4.75%, and Wellbutrin SR 150mg by 3.92%.<sup>25</sup> If I measure the inflation in months 2-7 after implementation of the Scheme, the mark-ups for these five drug/dosages increased by the following amounts: 4.04%, 4.31%, 4.52%, 4.86% and 3.94%.<sup>26</sup>
- c) I summarize the increases for each drug/dosage and for all five taken together in Table 1.
- d) With each increase in WAC after January 2002 through the end of 2004 for these five drug/dosages, reimbursement rates (AA) increased by the amount of the WAC ***plus the incrementally inflated mark-up induced by the Scheme.*** The pattern of these increases is summarized on a monthly basis in Figures 1.a)-1.e) and for each of five six-month periods after January 2002 in Table 1. In both cases, ***there is evidence of a uniformly inflated mark-up over two years. There is no mathematical or economic evidence of a push-back or mitigation of the inflation.***
- e) On average over all five drug/dosages, the increases in the mark-up over WAC

<sup>24</sup> The increase is not always immediate. In the month that the AWP and WACs are increased, the increase in the transaction prices at retail lags the change in list prices. This lag is not limited to the month in which the Scheme was implemented; it is revealed in the reimbursement data for all months in which WACs and AWP are reported and increased (See Figures 1.a)-1.e)). The lags are reflected simultaneously in the ratios (AA/WAC) and (AA/AWP), which are essentially constant over all other months.

<sup>25</sup> These increases are measured on an absolute basis as percentage points, that is  $(AA/WAC)_{\text{post}} - (AA/WAC)_{\text{pre}}$ . On a percentage basis,  $((AA/WAC)_{\text{post}} - (AA/WAC)_{\text{pre}}) / (AA/WAC)_{\text{pre}} = 3.43\%, 3.74\%, 3.83\%, 4.20\%$  and  $3.40\%$  for the first six month for the same five drug/dosages.

<sup>26</sup> As clarified in footnote 24, the increases are larger for months 2-7, since the changes in AWP & WAC take a month to flow through to the AAs paid by the Class members.



are 4.24%, 4.34%, 4.33%, 4.26% and 4.29% over time.<sup>27</sup> During this time frame, the WACs for both Lipitor dosages were increased 4 times; the WAC for Plavix was increased 3 times; the WAC for Prevacid was increased 5 times; and Wellbutrin 4 times.

- f) If there were any evidence of push-back or recoupment through d or df, we should see a systematic decrease in the mark-ups (AA/WAC) over time. ***I do not see any evidence of push-back in this measure of injury.***

33. The patterns revealed in Figure 1 are found broadly among all marked up drugs (Appendix A drugs). In Figures F.3.a) through F.3.q) of Attachment F, I present comparable data and analytic results for the following drugs: Allegra 60 mg; Celebrex 100 mg and 200 mg; Celexa 10 mg and 20 mg; Neurontin 300 mg and 400 mg; Nexium 20 mg and 40 mg; Prilosec 20 mg and 40 mg; Risperdal 0.25 mg and 1mg/ml; Seroquel 100 mg and 200 mg; and Zyprexa 10 mg and 15 mg. The patterns found therein are similar to those summarized for Figure 1. Specifically, the evidence suggests an immediate inflation in the mark-up of drug reimbursement rates paid by Class members relative to drug costs to retailers; this impact endures by month for years following the implementation of the Scheme by drug/dosage. There is no evidence of systematic push-back or recoupment in the average payment percentages measured by AA/WAC and AA/AWP.

34. The patterns in the same measures (AA/WAC and AA/AWP) revealed by selected non-Appendix A drugs provide further corroborative evidence. These patterns are well characterized by the drug/dosages put forward in Figures F.4.a) through F.4.s) of Attachment F. Because these drugs were not subject to the Scheme, we do not find the immediate and lasting increase in the mark-up measured by (AA/WAC) over the Class Period. However, the measure of (AA/AWP) is essentially constant over these drug/dosages. Hence, there is no evidence of systematic push-back or recoupment for non-Appendix A drugs, which is asserted by McKesson and Dr. Willig as possibly making the Class members better off, because the push-back or recoupment on Appendix A drugs would be extended to non-Appendix A drugs.<sup>28</sup>

<sup>27</sup> The percentage increases in the mark-up for all five drugs for all five periods are 3.72%, 3.80%, 3.79%, 3.74% and 3.76% respectively.

<sup>28</sup> See, for example, January 2007 Willig Declaration, ¶¶ 116 and 117 and May 2007 Willig Declaration, ¶¶ 81 and 82.

**Table 1**  
**Summary of the Scheme Impact for Selected Drugs and Strengths Identified by Dr. Willig (%)**

	<b>Lipitor 10MG</b>	<b>Lipitor 20MG</b>	<b>Plavix 75MG</b>	<b>Prevacid 30MG</b>	<b>Wellbutrin SR 150MG</b>	<b>All 4 Drugs</b>
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 1-6 Months After the Date of Markup</b>						
Change in AA/WAC	3.94	4.22	4.38	4.75	3.92	4.24
Percent Increase in AA/WAC	3.43	3.74	3.83	4.20	3.40	3.72
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 2-7 Months After the Date of Markup</b>						
Change in AA/WAC	4.04	4.31	4.52	4.86	3.94	4.34
Percent Increase in AA/WAC	3.52	3.82	3.95	4.30	3.42	3.80
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 7-12 Months After the Date of Markup</b>						
Change in AA/WAC	4.19	4.44	4.55	4.85	3.60	4.33
Percent Increase in AA/WAC	3.65	3.93	3.97	4.29	3.12	3.79
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 13-18 Months After the Date of Markup</b>						
Change in AA/WAC	3.77	4.49	4.40	4.62	4.03	4.26
Percent Increase in AA/WAC	3.29	3.98	3.85	4.08	3.50	3.74
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 19-24 Months After the Date of Markup</b>						
Change in AA/WAC	4.08	4.70	4.22	4.97	3.46	4.29
Percent Increase in AA/WAC	3.56	4.17	3.69	4.39	3.00	3.76

35. Finally, I pool monthly time series for all Appendix-A drugs to test the hypothesis of a systematic push-back or recoupment across these drugs. I do the same for my sample of non-Appendix-A drugs.<sup>29</sup> I find that if I assume that push-back is common across all drugs in each sample, there is a very small and at times statistically significant negative time trend, as I discuss in Attachment F. However, standard statistical tests demonstrate that a common explanation of changes in d and df is rejected by the data.

<sup>29</sup> The samples I have been able to use are discussed in detail in Attachment F.

The data demonstrate statistically that there exists no uniform, systematic time pattern of push-back. The ratios of AA/AWP of some drugs increase with time; some decrease with time; some are constant. However, ***at this level of disaggregation there is absolutely no evidence of systematic “push-back” or recoupment for Appendix A drugs.***<sup>30</sup> ***Evidence for these assertions by McKesson is simply not found in the data. At this level of disaggregation there is absolutely no evidence of systematic “push-back” or recoupment for non-Appendix A drugs. Evidence for these assertions by McKesson is simply not found in the data.***

36. I conclude the following:

- a) When analyzing impact, injury and calculating damages induced by the Scheme, it is necessary to take account of all drug-specific competitive factors that determine changing patterns of AA/AWP and AA/WAC, in addition to the Scheme.
- b) Changes in the AA over time relative to AWP are found to be described by drug-specific competitive factors, as each drug responds to specific therapeutic and/or generic competition and a changing mix of payers. ***These competitive changes are independent of the Scheme.***<sup>31</sup>
- c) TPP Class members did not systematically renegotiate the contractual arrangements governing drug reimbursement, even if that TPP knew that the Spread had been increased. This finding in itself suggests that TPPs did not know of the Scheme; did not know of the extent of the Spread increases for all Appendix-A drugs; and did not differentiate the larger AWP increases among Appendix-A drugs from the AWP increases of non-Appendix-A drugs.
- d) The evidence demonstrates that consumers paying coinsurance and uninsured cash payers had no ability to negotiate changes in the relationship of reimbursement at retail to AWP or U&C to AWP. The evidence also demonstrates consumers had no knowledge of the Scheme.
- e) The Scheme caused an immediate inflation in the mark-up (AA/WAC) of the preponderance of the challenged drug/dosages of 3.00 to 5.00 percentage points.

<sup>30</sup> It may seem strange that there is no systematic decrease in the AA/AWP found over my sample data, since  $p$  (recall that  $p = 1 - d$ ) and  $df$  were found to change (decrease) over time. The reasons seem to be the following. The time period of interest here is August 2001 through March 15, 2005. Over this period of time, the very aggregate measures of  $p$  and  $df$  put forward by Dr. Willig changed a small amount (see footnote 16 above). At the level of disaggregation of my data (individual drugs and dosages for which reimbursement includes payments by TPPs, uninsured cash payers and Medicaid), individual drug/dosage-specific factors are found to dominate the broader trends. Measurement of the broader trends may reflect a sampling bias that predominantly summarizes those drug/dosages that do reveal a measurable decrease in  $p$ ,  $df$  and therefore AA/AWP. Once the analyst examines micro data by drug and dosage, the data demonstrate that drug-specific competitive factors determine changing patterns of AA/AWP, as each drug responds to specific therapeutic and/or generic competition and a changing mix of payers. Indeed, this proliferation of individual effects is always masked by overall trend data.

<sup>31</sup> For example, the AA of Claritin's 10 mg pill began declining relative to AWP in early 2003, a pattern that likely reflects the competitive effects of the December 2002 launch of an over-the-counter version of Claritin.

The mark-up for some drugs increased by more than 5.00 percentage points, while the mark-up for some drug/dosages increased by less than 3.00 percentage points. Hence as a result of the Scheme, Class members paid more for almost all drugs subject to the Scheme. Absent the Scheme, the reimbursement rates paid by Class members would have been less, and the Class members were overcharged for all units sold and reimbursed based upon AWP. In a few cases, the measured mark-up decreased with the implementation of the Scheme. The evidence demonstrates that this decrease was drug-specific; limited; largely idiosyncratic; certainly unsystematic; and apparently reflective of manufacturer strategies rather than market responses to the Scheme. All of these responses are accounted for in my damage calculations.

- f) The immediate increase or change in the mark-up by drug was generally consistent for several years following the implementation of the Scheme. Any argument that some or all Class member TPPs, either on their own or through their PBMs, were able to push-back or recoup the inflationary injury fails.
- g) Econometric analysis of reimbursement rates demonstrate that the Class was unable to push-back or recoup the inflationary injury induced by the Scheme for the challenged drugs and did not push-back or reduce reimbursement for those SADs not subject to the Scheme. ***There is no evidence of systematic mitigation or push-back through increases in discounts off AWP and/or decreased dispensing fees for challenged SADs (those in Appendix A) and for non-challenged drugs (the non-Appendix A drugs).*** Conjectural arguments to the contrary are unsupported by extensive reimbursement data and fail.
- h) While there was certainly contract renegotiation during the period in which the Scheme was in effect, there is no evidence that such renegotiation systematically pushed-back or recouped the inflation. Such renegotiation has been a part of the TPP/PBM interaction since 1990. It did not have measurable impact on increased drug reimbursement induced by the Scheme.
- i) In addition to the push-back or recoupment through increased discounts and/or reduced dispensing fees, McKesson has proliferated the record with conjectures of the many other ways in which PBMs could have negated the Scheme, including rebates, pass-throughs and quantity limits. I discuss some of McKesson's arguments in Section V. Suffice it to say, there is no evidence of systematic push-back through the two most immediate and primary variables for recoupment, the discount off of AWP (d) and the dispensing fee (df). If we don't find evidence for these two measures, it is unlikely to be hidden elsewhere.
- j) Finally, my damage methodology has been implemented on a drug-by-drug and month-by-month basis, incorporating the individuality and specificity of the competitive conditions facing each drug and the extent of the impact of the Scheme on each drug over time. My ability to perform such an analysis drug-by-

drug and month-by-month is made clear by the evidence in Exhibit F.1 to Attachment F.<sup>32</sup>

## V. THE FAILURE OF MCKESSON'S ANALYSIS AND ASSERTIONS

37. While the statistical analysis summarized above and developed at length in my Attachment F demonstrates that there was no push-back revealed in the important measures of TPP Class member reimbursement, it is useful to discuss at some length why the theoretical economic arguments made by McKesson fail as a matter of economics.

38. As noted above in ¶ 17, McKesson bases its theory of no impact on misguided descriptions of information flows and competitive behavior. Their assertions fail for the following reasons:

- They fail on logical grounds. McKesson, FDB and the major retailers pressuring for the increased Spread resulting from the 5% Scheme are as market-savvy and information-savvy as, if not more so than, the PBMs and TPPs alluded to by McKesson. If knowledge were as readily available and communicable as McKesson now says, McKesson, FDB and the major retailers pressuring for the increased Spread would have realized that. In short, they would have realized that the increased Spread had no chance of benefiting them. If everyone knew of the Scheme, then everyone would know that everyone knew, and the Scheme would offer no benefit to the intended beneficiaries. If McKesson's theory of information in this market were correct, they would never have undertaken the Scheme that discovery materials demonstrate they did indeed undertake.
- They fail on evidentiary grounds. McKesson asserts that all PBMs knew of the Scheme and its impact upon Spread; McKesson asserts that all TPPs were informed. It puts forward evidence for *only two PBMs* (ESI and Caremark) which account for only about 16% of insured lives in 2002 and only 17% of expenditures,<sup>33</sup> thereby ignoring PBMs that manage the pharmacy benefits for the majority of lives in the country. McKesson presents even less evidence that TPPs were informed and no evidence that consumers were informed.<sup>34</sup>

<sup>32</sup> Because my damage methodology takes account of drug-by-drug changes in mark-ups month-by-month, my damage calculation accounts for increased reimbursement due to preponderance of mark-ups that were immediately and permanently inflated (See ¶¶ 36.a) and 36.b) of Attachment F for greater detail); for increased reimbursement due to those mark-ups that were immediately inflated but for which the mark-up decreased to some extent over time by month (See ¶ 36.c) of Attachment F for greater detail); and for decreased reimbursements due to a few identifiable reductions in the mark-ups which occurred at the time of the implementation of the Scheme (See ¶ 36.d) of Attachment F for greater detail).

<sup>33</sup> Atlantic Information Services, *A Guide to Drug Cost Management Strategies: Recent Results, Current Practices, Future Plans*, 2002, p. 359.

<sup>34</sup> The only evidence McKesson has presented is an ESI letter, reflecting a very limited portrayal of the impacts of the Scheme. Indeed, ESI's internal documents reveal that its letter was strategically vague and uninformative. ESI did not share all information with its TPPs. As I demonstrate in Attachment D, ESI was very guarded about the amount of information shared and the extent to which the information clarified how the impact of the Scheme benefited various market entities.

- They fail as a matter of economic theory. They fail to account for the complicated tradeoff presented to ESI, Caremark and many PBMs by the Scheme. On the one hand, PBMs (or their parent company) profited directly from the Scheme; revelation of the Scheme would eliminate those financial benefits. On the other hand, PBMs could exploit their newly acquired information (if they had it) with TPPs, thereby competing to increase their market position and share with the TPPs. This latter result is espoused by Dr. Berndt and Dr. Willig. The evidence demonstrates that this latter assumption is too simplistic and did not occur in this case. This case is quite different than the AWP MDL matter.

39. Let me expand briefly on each of these while directing the Court to the more complete discussion in Attachments D and E.

**A. McKesson's Assertions that the Scheme Had No Impact Fail on Logical Grounds**

40. We know from discovery materials that McKesson believed the 5% Scheme would work and its benefit would endure. They were not alone. Major retail pharmacies (most importantly those pressuring McKesson to increase the Spread) and drug manufacturers believed and discussed how the 5% Scheme would successfully benefit retail pharmacies, mail-order pharmacies and McKesson. Examples of supporting evidence are provided in ¶ 7 of Attachment D. McKesson and FDB believed strongly enough in the economic benefits of the Scheme that they "played hardball" when manufacturers attempted to deviate from the Scheme.

41. If however, as McKesson's counsel and McKesson's expert now assert, "They all knew, they all were told; the PBMs all knew it. They knew this difference occurred. They told the TPPs this;" ***it is inexplicable*** that McKesson and FDB would consider entering into and firmly enforcing the challenged conduct. ***It is inexplicable*** that major retailers urged them to do so. It is inexplicable because if everyone knew, the Scheme simply would not work, as a matter of economics. Why would McKesson and FDB risk legal liability, knowing what all relevant market entities in the industry are asserted by McKesson to have known – that is, all price information necessary to render the Scheme unprofitable ***and*** the fact that all entities in the industry would use that information to render the Scheme unprofitable.

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While McKesson insinuates that ESI and Caremark were sufficient to inform two-thirds of TPPs of the Scheme and its impact on Spread, this insinuation fails. At p. 26 of the *Motion/Status Hearing*, after introducing ESI, Ms. Schechter asserts, ***without supporting evidence***, "They sent notification to their TPP customers. That's potentially ***a third of all TPPs*** in the country" (emphasis added). At p. 32 of the *Motion/Status Hearing*, after introducing Caremark, Ms. Schechter asserts, ***without supporting evidence***, Caremark's knowledge of the impacts of the Scheme "enabled them to recapture the artificial gain that may have been in the system. ... it's then available to be negotiated back to their TPPs. That makes ***two-thirds of all the TPPs*** in this country" (emphasis added). Apparently, based upon evidence that these two PBMs knew of the increased Spreads, the Defendant leaps to the conclusion that two-thirds of TPPs knew.

As discussed in Attachment D, that inference is unsupportable.



**B. McKesson's Assertions that the Scheme Had No Impact Fail on Evidentiary Grounds**

**The Evidence Shows that No PBMs Knew of the Scheme Itself and Only a Few PBMs Knew of the Scheme's Impact**

42. McKesson asserts (¶ 17 above) that “the PBMs all knew.” The evidence demonstrates knowledge of the increased Spread induced by the Scheme for selected drugs only for ESI and Caremark. I discuss what ESI knew at ¶¶ 12-14 of Attachment D and what Caremark knew at ¶ 18 of Attachment D.<sup>35</sup> Regardless of whether or not PBMs knew of the Scheme, the real issue is whether or not they fully and adequately informed their TPPs such that a TPP knew of the arbitrary source of the price increase.

**The Evidence Shows that the Few PBMs that Knew of the Scheme's Impact Did Not Inform Their Client TPPs**

43. McKesson asserts (¶ 17 above) that “the PBMs all knew ... [and] **told the TPPs this. I want to emphasize that they told them that**” (emphasis added). This broad assertion has no basis in demonstrated fact. ESI was the sole PBM for which evidence has been produced demonstrating any communication with its TPPs. **That is one data point!** Furthermore, McKesson extrapolates from this one data point. ESI communicated with a *de minimis* number of client TPPs<sup>36</sup> (26 out of “thousands of client groups” – see footnote 2 in Attachment D) and its communication to this small subset of clients is remarkable for the economic information it withheld rather than the economic information it shared.

44. Specifically, ESI internal strategic discussions identified the impacts of the Scheme in March of 2002 and recognized its following effects (see ¶¶ 12-14 of Attachment D):

- a) Pharmacy profits would increase for both network pharmacies (“the big winners in the situation”) and for ESI mail-order pharmacy (“the additional income PBM will receive for their mail order pharmacies”).
- b) “ESI will see an increase in margin per script and rebate.”
- c) The reimbursement rates paid by Class members for the relevant pharmaceuticals would increase. “The client will see an increased trend **in direct relation to the increase in AWP**. ... The client will see an increase in drug costs. Members will pay more for % copay plans, they will meet their deductibles and caps sooner” (emphasis added).

<sup>35</sup> Ms. Schechter presents Slide 18 to the Court at the *Motion/Status Hearing* regarding the observation by Medco Health that AWP's increased more rapidly in 2002. However, she presents no evidence that the source of that growth was the Scheme or the increases in Spread. AWP's have been growing at different rates per year since 1990.

<sup>36</sup> Without evidentiary support, Ms. Schechter asserts (at p. 26 of the *Motion/Status Hearing*) ESI “sent notification to their TPP customers. That’s potentially a third of all TPPs in the country,” insinuating that the letter was sent to all client TPPs.

- d) “Drug manufacturers get an unwarranted black eye for increasing pricing that they had nothing to do with. ... [and] are already up in arms over this increase. They are the ones who are most hurt by this new policy.”

45. Given that **ESI knew this**, if McKesson’s assertions about the “fierce” competition motivating PBMs behavior are correct, I would have expected that ESI would have informed all of its TPPs of it and would have proposed to discuss with them how best to share ESI’s increased profits earned at their expense; how TPPs could best compete more effectively through ESI in response to the Scheme; and how TPPs might adapt to “a pricing paradigm shift,” if indeed one occurred.

46. Instead, ESI sent a version of the following form letter to only 26 TPPs.

“Pharmaceutical manufacturers make price changes throughout the year. As we have documented in Express Scripts’ annual *Drug Trend Report*, for the last four years the average increase in Average Wholesale Price (‘AWP’) has exceeded 5%. The first wave of price increases typically take place in the January through February timeframe. Over the last couple of years these increases have averaged 1 to 1.5%. This year, however, the increase for this period ... is closer to 2.5%. The increase for this period also includes an adjustment to increase the difference between wholesale acquisition cost (‘WAC’) and AWP **for certain drugs**. In other words, a little less than half of the total increase is due to AWP increases that are in excess of the corresponding increase in WAC. Upon our inquiry to our pricing service, First Data Bank (the industry’s primary source for AWP information), the recent AWP adjustments were made to establish a more consistent relationship with WAC. As this trend indicates, it is more important now than ever to put cost management strategies in place” (emphasis added).<sup>37</sup>

47. If ESI were fiercely competitive; if ESI really wanted to competitively provide information to its client TPPs that “was not vague; that was quite specific,”<sup>38</sup> why not draft a letter to all TPPs summarizing its internal discussion identified in ¶ 44 above, rather than the minimalist statement found in the letter quoted in ¶ 46 above? That letter begs a variety of information questions, which I identify in ¶ 28 of Attachment D. I conclude that the **information not communicated** by ESI to client TPPs was certainly more extensive than the limited information that was provided. The information not provided would have been very useful, in all likelihood more useful, to the TPPs in their negotiations with ESI. If ESI (or other PBMs) had communicated what they knew to TPPs, the TPPs would have acted differently. There is evidence from TPPs testifying to this.

<sup>37</sup> ESI-414-00003724 and ESI-414-00001754.

<sup>38</sup> At pp. 26-27 of the *Motion/Status Hearing*, Ms. Schechter asserts “And contrary to what Dr. Hartman assumed when he put together his formula, the PBMs actually told the TPPs about this. And in fact Dr. Berndt predicted the exact same thing would happen. And they didn’t just say something that was vague. They were quite specific.” As noted in the text above, I discuss in Attachment D the extent to which this information was vague. One obvious example of vagueness is that the letter refers only to “certain drugs.” As a matter of economics and business practice, it is not possible for a TPP to judge the impact of the increase in AWP relative to WAC of 2.5% when the letter merely states that this occurs “for certain drugs.”



**The Evidence Shows that TPPs Did Not Know of the Scheme or its Impacts**

48. In discussing Rule 23(a) and issues of commonality,<sup>39</sup> the Court pays special attention to TPPs, stating “A closer question involves the TPPs because of differences between the size and sophistication of the plans.” It would seem that this question is “closer” for TPPs only if the evidence suggests differences in size and sophistication led to differences in knowledge and mitigation. The evidence does not support such a finding. Dr. Willig introduces a variety of TPPs, the evidence for which I review in ¶ 39 of Attachment D. Those TPPs which Dr. Willig characterizes as large, vertically integrated into pharmacy services and “highly sophisticated,” for example, Humana and Select Health, had no better knowledge regarding the increased Spreads induced by the Scheme than did the smaller, unsophisticated plans. For instance, Select Health did not track the relationship between AWP and WAC (see ¶ 39.g) of my Attachment D).

49. McKesson does not address the issue of such differences. Specifically, McKesson’s counsel asserts that “They [the TPPs] all knew, they all were told. ... The PBMs all knew it. They knew this difference occurred. They told the TPPs this.” Dr. Willig speculates that TPPs knew, stating “It is difficult to believe that an AWP increase of this magnitude would go unnoticed by those who specialize in monitoring drug prices” (as quoted above in my ¶ 25).

50. Dr. Willig is incorrect. In ¶¶ 39.a)-39.i) of Attachment D, I review the discovery materials, deposition testimony and/or declarations submitted by representatives of the following TPPs: BCBS of Montana, DC-37, Harvard Pilgrim Health Plan, Humana, Philadelphia Federation of Teachers Health and Welfare Fund (PFTHW), Pirelli Armstrong Retirees Medical Benefits Plan, Select Health, The Teamsters Health and Welfare Fund of Philadelphia and ConnectiCare. None of these TPPs knew of the Scheme; only one (ConnectiCare) knew of the increased Spreads reported by FDB. However, it learned of those increases from sources other than its PBM, ESI.

51. In the absence of evidence, McKesson introduces a misleading presentation of the record to draw an inference of knowledge. For examples,

- a) Ms. Tina Wong testified under oath that BCBS Montana does not track AWP or its changes (¶ 39.a) of my Attachment D). Yet after introducing BCBS Montana and Ms. Wong, Dr. Willig asserts in his May 2007 Declaration (pp.21-22): “It is their business to be knowledgeable of the specifics of the health care industry in an effort to provide the lowest prices to their customers, employers, unions, and individuals. To do this, they spend time and resources examining market trends and conducting research on the health care markets. ... On April 22, 2002, Express Scripts sent a letter to Tina Wong and Dr. Roy Arnold ... informing it of FDB’s change in the AWP/WAC ratio for some drugs. In addition, Tina Wong testified that BCBS Montana made changes to member co-pay levels in response to increases in drug prices.”
- b) If BCBS Montana does not track AWP, they could not track the Scheme or the increased Spreads. BCBS Montana did receive the vague, general letter from ESI

<sup>39</sup> At pp. 11-14 of the *Memorandum and Order*.

cited above; however, since it does not track AWP, the changes “to member co-pay levels” must not have been in response to the Scheme and its AWP inflation. Member co-pay levels are renegotiated regularly. There is no evidentiary link between the cited “changes to member co-pay levels” and the increased AWP’s induced by the Scheme.

- c) DC 37 was unaware of the changes to FDB’s AWP’s and the increase in the Spreads induced by the Scheme. In her deposition and sworn testimony, Rosario Esperon, Administrator of the Health and Security Plan for DC 37, testifies that DC 37 would have negotiated differently had it known of the increased Spreads (see ¶ 39.b) of Attachment D). In light of this testimony, McKesson’s counsel assertion<sup>40</sup> to the Court that DC 37 saved money “from their recontracting” has no basis in any facts presented to date. Dr. Willig admits as much.<sup>41</sup> Indeed, the **discount** off AWP **decreased** for DC 37 over 2002 to 2004 through 2006, from (AWP – 16%) to (AWP – 15%), contrary to the aggregate data introduced by Dr. Willig.

### **McKesson Overreaches**

52. There are a variety of instances in which McKesson’s Counsel make statements to the Court that are simply untrue. I develop these statements in more detail at ¶¶ 34-36 my Attachment D. One example involves the purported response of Covenant Health to the reception of the ESI letter. McKesson’s counsel argues (pp. 26-27 of the *Memorandum and Order*) that after receiving the ESI letter on April 15, 2002,<sup>42</sup> “**the very next day** one [Covenant Health] of the recipients of the Express-Scripts alert **sought assistance from Express-Scripts to quickly move on this development** and put quantity limits in place (Slide 10).” When the Court asked McKesson’s counsel, “What do you mean by quantity limits?”, counsel replies “Put limits in place so that they could offset the increase by limiting, with their plan design, whether or not they would pay for this particular drug or **whether they would put in place generic substitutions, which they could do on many of these drugs. And so if a generic substitution is put in place**, then nobody suffered an impact from the increase in that drug. In fact, they may have saved money” (emphases added).<sup>43</sup>

53. These are very strong assertions about competitive responses, assertions that are unsupported by fact. As I demonstrate in ¶ 34 of Attachment D, **quantity limits are not put in place to induce generic substitution**. Quantity limits are built into benefit design by TPPs to limit coverage of drugs that are expensive, of questionable value to the payer

<sup>40</sup> Ms. Schechter (McKesson’s counsel) asserts that there were savings at p. 29 of the *Motion/Status Hearing*, as cited in my ¶ 35 of Attachment D.

<sup>41</sup> While McKesson’s Counsel and Dr. Willig (see ¶ 48 of the January 2007 Willig Declaration) frequently appeal to discussions between ESI and DC 37 to increase the discount off AWP, “DC 37 and ESI never reached agreement on the enhanced retail discount.”

<sup>42</sup> In Ms. Schechter’s presentation, at Slide 9, she puts forward a letter to Dr. John Frederick of PreferredOne, rather than to Covenant Health.

<sup>43</sup> This colloquy takes place at p. 27 of the *Motion/Status Hearing*.

(i.e., the employer buying the plan), and/or for which demand is extremely responsive to price (i.e., coverage). “Lifestyle” drugs such as Viagra are the classic example of this case.<sup>44</sup> Quantity limits are used for a small set of drugs, *not* “many of these drugs,” as McKesson’s counsel states. And as an element of benefit design, a quantity limit would not simply be slipped into a plan mid-year, as McKesson’s counsel suggests, as the Urgent Response to the ESI letter. Since quantity limits are unrelated to generic substitution and any reasonable response to the Scheme, the evidence does not support the assertion that Covenant Health “sought assistance ... the very next day.”

54. More generally, it is unlikely that TPPs would have sought to introduce generic substitution plans to “push-back” against the Scheme or recoup injury from the Scheme for several reasons. PBM/TPP programs aimed at generic substitution had already been actively and substantially introduced since the mid-1990s. There was no information in the ESI letter stating that the increased Spread was for branded drugs only. The letter was silent on whether both branded and generic drugs were included in the “certain drugs” subject to the increased Spreads.

55. McKesson’s counsel’s conclusion that “so if a generic substitution is put in place, then nobody suffered an impact from the increase in that drug. In fact, they may have saved money” (p. 27, Motion/Status Hearing) is without foundation.

56. Likewise, when the Court asks (at p. 29, *Motion/Status Hearing*) Counsel “But what about the contract you were locked into? Do you have any evidence that anyone retrospectively went back and recouped everything?”, Defendant’s counsel replies “Well, this one right here, ProMedica.” As I discuss at length in ¶¶ 41-45 of Attachment D, Defendant’s evidence for ProMedica consists of *a 2007 email* in which ESI *claims* that ProMedica was given “rate relief” in 2004 which recouped the impact of the overcharge. No supporting analysis of recoupment is provided. No supporting analysis regarding the reliability of the claims of the email is presented. This email is not analytic evidence.

### **C. McKesson’s Assertions that the Scheme Had No Impact Fail as a Matter of Economic Theory**

#### **Consumers Did Not and Could Not Know of the Scheme or its Impacts**

57. As a matter of economics and industry practice, there is no way consumers could know of the impacts of the Scheme or protect themselves from those impacts. There is no evidence that any consumer in Class 2 or proposed Class 3 knew of the scheme.

#### **McKesson’s Appeals to Simple Notions of Competition Fail**

58. The most common defense one finds in litigation involving alleged economic violations is an appeal to the “invisible hand” of competition, which, it is argued, makes the alleged violation impossible. Generally, defendants assert that their challenged conduct could not be illegal since it could not be sustained in the face of workable

<sup>44</sup> I provide (in ¶ 34 of Attachment D) a set of examples of quantity limit programs offered by PBMs and TPPs, including ESI. It is clear that none of them are aimed at generic substitution.

competition. This case is no different. McKesson has attempted to create the impression that competition among PBMs is sufficiently vigorous. The Court appears to accept this characterization, stating “Competition among PBMs for the business of TPPs is fierce.”<sup>45</sup>

59. Reliance by McKesson’s counsel and expert upon the “invisible hand” of competition is crucial to their conclusion that the incontrovertible immediate injury and overcharge induced by the Scheme is “pushed-back” or recouped, either immediately<sup>46</sup> or over time.<sup>47</sup> Since this reliance is so important, it is important that the Court closely scrutinize McKesson’s claims and reflect upon its own characterization of PBM competition as being “fierce.”

60. There is no economic definition of “fierce” competition. There are markets in which competition is “aggressive” or “vigorous,” maybe at times “fierce.” For examples, spot and future commodity markets, such a markets for grains (winter wheat, corn, soy beans) and metals (hot-rolled steel, cold-rolled steel, galvanized steel, aluminum) are vigorous. Competition in these markets as displayed by commodity traders on the floor of the New York Mercantile Exchange may be viewed as “fierce.” Think of commodity traders shoving one another in the face to buy and sell homogeneous products that compete only on price. In those markets, prices and costs are known with near certainty. The buy and sell spreads are known and posted to all. In these markets, prices are pushed to cost. ***Most importantly, competition is “fierce” because profits are maximized when the competitors respond most quickly and adroitly to the available information.***

61. This last point is crucial. In competitive markets, competitors maximize profits. Commodity markets are competitive markets for homogeneous products; profit maximization requires “fierce” competition and prices are pushed to costs.

#### **PBM Competition for TPP Business Differs from Simple Market Competition**

62. While PBMs do compete for the business of TPPs, ***PBM competition is not fierce.*** That is not how PBMs, and the corporate entities that own PBMs, maximize profits. There is nuance to PBM competition. To accept McKesson’s notion of competition in simple homogenous product markets as characterizing competition among PBMs is to miss that nuance and to countenance the injury of this Scheme.

63. There are a variety of theoretical and institutional reasons explaining why competition is not fierce among PBMs.

- a) Those PBMs that were most likely to have uncovered the increased Spreads induced by the Scheme are large and part of health care services conglomerates. Indeed the three PBMs introduced by McKesson are the three largest in the

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<sup>45</sup> Memorandum and Order, p. 4.

<sup>46</sup> McKesson’s counsel has argued that competition is so “fierce” and the transmission of and response to information on the increased Spreads for “certain drugs” is so immediate that TPPs respond within a day (see my ¶¶ 52 & 53 above).

<sup>47</sup> In his May 2007 Declaration (at footnote 4 and ¶ 29), Dr. Willig admits to a “middle ground.” At ¶ 29 he states “I take a middle-ground position that there may have been some harm to some TPPs.”

country; see Attachment E. ***These conglomerates maximize overall profits over all lines of business, not just over their PBM line of business.*** This fact, which I develop more fully below, constrains PBM competition for TPP business.

- b) However, let me ignore this corporate-wide strategic constraint for the moment and focus on PBM competition for TPP business. This competition differs from that in markets where consumers and producers make purchase decisions for themselves. In the market of interest here, PBMs compete to be the “agent” of the TPP. It is well-known that an “agency” problem or a “principal-agent” problem can arise in these markets. The TPP hires the PBM to act as its representative (its agent) to perform a variety of drug-benefit-plan management activities. The TPP pays an administrative fee, as incentive, to its agent, the PBM, to perform these activities. However, if the PBM earns, as incentive, more income from other sources, such as drug manufacturer rebates and/or payments from retail chains seeking to participate in the PBM network,<sup>48</sup> it is likely that the PBM will be less concerned with its duties to its principal (the TPP) than it will be concerned with satisfying the strategic needs of those other entities.
- c) As a result, the “principal-agent” problem arises; the PBM will not properly act to solely reflect, protect and compete for the economic interests of the principals (i.e., the Class members) retaining it to perform contracted activities. As a result, competitive motives and behaviors are blunted.
- d) Furthermore, the principal-agent agreement results reflect complex bargaining equilibria rather than simple price competition for a single product. Economic models of bargaining better describe this competition. For example, in a Nash or Roth-Nash model of bargaining,<sup>49</sup> the “reservation” position of each bargaining party (that is, the economic position that party could achieve if no agreement were reached) is relevant to determining the outcome of a bargain. Here, if a TPP bargaining with a PBM believed the PBM were forgoing profits of X by not striking a deal, the outcome would be different than if the TPP thought the PBM were forgoing profits of 10X. In particular, ***the TPP would bargain more aggressively if it thought the PBM had more to lose.***
- e) Thus, to the extent that the level of overall profits that a PBM will earn on a contract is unobservable, the PBM can negotiate a more favorable contract and,

<sup>48</sup> For example, according to Schondelmeyer and Wrobel, “Examination of the sources of revenue for PBMs reveals that PBMs make more money from manufacturer revenue than they make from employer/client fees. Other major sources of revenue include revenue from pharmacy discounts not passed on to the end payer. Some analysts have raised concerns about the potential conflict of interest faced by PBMs with more revenue from drug manufacturers [and pharmacies] than from the employer or client. Another potential conflict of interest results from a PBM promoting their own pharmacy (a mail order pharmacy) while at the same time reviewing prices and processing prescription claims of community pharmacies.” See Stephen W. Schondelmeyer and Marion V. Wrobel, “Medicaid and Medicare Drug Pricing: Strategy to Determine Market Prices,” Final Report, Abt Associates Inc., Prepared for Centers for Medicare and Medicaid Services, August 30, 2004, p. 13.

<sup>49</sup> Which I introduced to this Court in my November 1, 2006 Direct Testimony in the AWP MDL matter at footnote 45 (Direct Testimony of Raymond S. Hartman, *In re Pharmaceutical Industry Average Wholesale Price Litigation*, MDL No. 1456, November 1, 2006).



even in the presence of competition, earn substantial margins. ***Thus, it is in the PBM's self-interest to keep unobservable, or to hide, an increase in profits due to a particular event or set of events (such as the Scheme), when those profits are being earned at the expense of TPPs, which is the case here.***<sup>50</sup>

This fact certainly explains why the ESI letter was so vague and uninformative about the effects of the Scheme and why it was sent to so few TPPs.<sup>51</sup>

- f) For the same reasons, TPPs would not have been able offset the sudden increase in AWP through other features of the contract, in particular, increased discounts and lowered dispensing fees. If PBMs operated in a competitive market, a "participation constraint" (e.g., a zero, or fixed profit constraint that would be necessary to induce the PBM to sign the contract) would indeed imply that higher net payments in one part of a contract would be compensated for by lower payments in another. In a bargaining situation, however, this is not true. A new source of hidden profits, as alleged in this matter, would effectively change the bargaining strength of the two parties, which would alter the division of the surplus between the two parties in bargaining (using the Roth-Nash model described above). Therefore, ***McKesson's actions to increase the spread to retailers would not be compensated for by discounts elsewhere but instead will result in higher net payments by TPPs (and harm to Class members).***

64. The foregoing theoretical and institutional discussion has been corroborated by the realities of the PBM market documented in discovery. Generally, TPPs hire PBMs through a request for proposal (RFP) process to undertake a task on their behalf – to manage their pharmacy benefit. While the TPPs can observe what their contracted rates are as a function of AWP as well as the total amount they are spending once the contract is in place, they cannot observe numerous dimensions of the tasks undertaken by the PBMs. For example, TPPs cannot observe the magnitude of rebates and other payments that the PBM earns from pharmaceutical manufacturers related to formulary status and market share of various brand name drugs, nor can they observe how aggressively the PBM promotes generic substitution. TPPs often do not receive reports from their PBMs identifying the composition of their total rebate payments by drugs and/or NDCs. Likewise, unless the TPPs somehow knew how to track AWP and WAC prices over time for the drugs at issue, they could not observe the alleged AWP inflation. ***Discovery materials in this matter demonstrate that very few TPPs track AWP and WACs in this fashion.***<sup>52</sup> In light of the small percentage of total health care spending at issue and the numerous other factors that might push monthly drug spending up or down, even a

<sup>50</sup> This fact is admitted by ESI internal strategic documents, presented at length in Attachment D, ¶¶ 12-14: "The client [TPPs] will see an increased trend [cost] in direct relation to the increase in AWP. ... The client [TPPs] will see an increase in drug costs. Members will pay more for % copay plans, they will meet their deductibles and caps sooner."

<sup>51</sup> ESI did not demonstrate a willingness or an effort to renegotiate the terms of its contracts with its client TPPs. Instead, it sent out a vanilla letter saying that the Spread had increased for "certain drugs." ESI did not say how many drugs constituted "certain drugs;" ESI directed its staff not to proactively offer any relevant information unless asked by TPP clients; ESI did not propose specific methods by which the TPPs could mitigate the impacts of the Spread. See Attachment D.

<sup>52</sup> See Attachment D, ¶¶ 39-40.

sophisticated TPP would have had a difficult time determining whether such an observed increase was part of general health care spending growth, the reflection of new drug launches or seasonal increases in utilization. With thousands of drugs and millions of claims, TPPs faced an enormous monitoring problem concerning PBM and retailer behavior.

65. Another institutional feature of the PBM service market that causes a departure from the frictionless competitive ideal held out by McKesson is the fact of switching costs. There are fixed costs associated with putting out an RFP, evaluating bids, and in the event of a switch, disseminating new information to members and establishing protocols for electronic data interchange. PBM contracts are therefore typically long term, which softens any price competition that might arise between PBMs. This notion of competition is analogous to that observed in physician markets, where doctor-patient relationships inhibit patient willingness to shop around for better prices or quality. Such “monopolistic” competition, as it is referred to in the economics literature, permits PBMs (like physicians) to maintain high profit margins even where there is a low level of market concentration.

#### **Follow the Money**

66. Evidence ultimately determining illegal behavior in a famous national case was uncovered through the advice “Follow the money.” That is always a useful exhortation. Competitors always maximize profits. When “fierce” competition is required to do so, competitors compete fiercely. The nature of PBM competition for TPP business, taken on its own, demonstrates that competition will be less than fierce, if the competitors want to maximize profits.

67. This conclusion is made more compelling once we examine the fact that PBM competition is not undertaken independently, particularly for the large PBMs. The PBMs demonstrated to have some knowledge of the impacts of the Scheme are the largest in the country;<sup>53</sup> indeed, even one of the largest (Medco Health) did not demonstrate knowledge of the Scheme or its impacts upon Spreads, only a general awareness of AWP increases. These PBMs are generally part of health-care-service-provider conglomerates which operate in a variety of markets. For example, the economic entities of which PBMs are a part make substantial revenue and profit in mail order and network pharmacy. The money these conglomerates make from TPP pharmacy benefit management is a small portion of their total revenue and profit. When profit maximizing strategies are developed for these conglomerates, the resulting competitive strategies takes account of the profitability across all lines of business. As I discuss in Attachment E, PBMs’ mail order and network pharmacy lines of business made substantial profits from the Scheme. The economic entities owning the PBMs will not throw that profit away in order to “compete fiercely” for a less important line of business. Their shareholders would reasonably object.

68. Discovery materials demonstrate that the PBM put forward by McKesson (ESI) knew that its affiliated lines of business benefited from the increased Spreads, as the

<sup>53</sup> See Attachment E, Table E.1. There is no evidence that other PBMs knew of the impacts of the Scheme.

internal strategic documents of ESI demonstrate.<sup>54</sup> As Figures E.1 and E.2 of Attachment E demonstrate, ESI and Medco Health earn the majority of their revenue (hence profit) from mail order and network pharmacy lines of business.<sup>55</sup> Since the Scheme was estimated by McKesson to increase profit on retail pharmacy sales (and by inference profits on mail-order pharmacy sales) by “3 times” (see ¶ 14 above), it is not credible to argue that PBMs (and their corporate owners) would compete away those profits in an attempt to add, on the margin, to their already substantial number of client TPPs and number of insured lives.

**Statistical Analysis of Class Drug Payments Confirm a Lack of Competition**

69. If competition were indeed fierce, we should see its results in the first line of defense for TPPs – systematic increases in discounts and reductions in dispensing fees, either quickly or within a year or two of the implementation of the Scheme. The econometric analysis of reimbursement data that I have put forward in Attachment F provide evidence to assess the existence of fierce competition. ***We do not see push-back through the end of my data, November 2004.***

**VI. CALCULATION OF DAMAGES**

70. I present the calculation of my damages in detail in Attachment F. I calculate damages monthly for each drug beginning in the month that the Scheme was implemented for that drug. Hence, the damages for those drugs for which the Scheme was implemented, say, in the last quarter of 2001 are demonstrated to continue through and are calculated through March 2005. The damages for those drugs for which the Scheme was implemented in, say, the first quarter of 2003 are demonstrated to continue through and are calculated through March 2005. Total damages for the Class Period through March 2005 are presented below in Table 2.

<sup>54</sup> See ¶¶ 12-14 of Attachment D.

<sup>55</sup> This has been noted more broadly; see footnote 48 above.



<b>Table 2: Summary of Damages Through March 2005</b> <b>(all figures in millions \$)</b>		
<b>Class</b>	<b>Total Nominal Damages</b>	<b>Total Damages with Prejudgment Interest</b>
Class 1: Consumers Paying Coinsurance	\$188 M	\$214 M
Class 2: Third-Party Payers	\$5,437 M	\$6,845 M
Proposed Class 3: Uninsured Cash Payers	\$722 M	\$822 M
<b>Total</b>	<b>\$6,348 M</b>	<b>\$7,880 M</b>

71. As discussed in Attachment F, my damage methodology takes account of the impact of the Scheme on the mark-up above WAC of average retail reimbursement rates on a drug-by-drug basis. On a monthly basis, it accounts for changes in WAC (if any), and actual changes in discounts off AWP and changes in dispensing fees. Having calculated the inflated reimbursements paid by the Class, I deduct the rebates paid by manufacturers and passed on to the TPPs.

72. My analysis of reimbursement data demonstrates that once the Scheme impacted a given drug, the damages continued to the end of the Class Period. In Attachment F, I conduct my analysis of damages on a quarterly basis, both to calculate how damages changed over time on a drug-by-drug basis (decreased or increased) and to allow the Court to consider alternative damage periods. Should the Court decide to limit damages to one year of the Class Period, my damage calculations can be aggregated for those drugs and those quarters. Should the Court decide to limit damages to one year from the time of the implementation of the Scheme for each drug, my damage calculations can be aggregated for those drugs and for those years and quarters. Should the Court decide that TPP contract renewals/renegotiations would occur generally two years after the peak of the Scheme (March 2002), the damage period would extend through March 2004. I present damages for that period in Table 3. Should the Court decide that TPP contract renewals/renegotiations would occur one year after the peak of the Scheme, the damage period would extend through March 2003. I present damages for that period in Table 4. Should the Court decide to limit damages based upon some other criteria, my damage calculation should be sufficiently flexible to allow for such criteria.

**Table 3: Summary of Damages Through March 2004**  
(all figures in millions \$)

<b>Class</b>	<b>Total Nominal Damages</b>	<b>Total Damages with Prejudgment Interest</b>
Class 1: Consumers Paying Coinsurance	\$124 M	\$142 M
Class 2: Third-Party Payers	\$3,586 M	\$4,614 M
Proposed Class 3: Uninsured Cash Payers	\$476 M	\$547 M
<b>Total</b>	<b>\$4,187 M</b>	<b>\$5,303 M</b>

**Table 4: Summary of Damages Through March 2003**  
(all figures in millions \$)

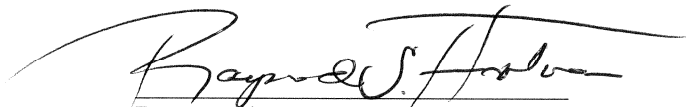
<b>Class</b>	<b>Total Nominal Damages</b>	<b>Total Damages with Prejudgment Interest</b>
Class 1: Consumers Paying Coinsurance	\$63 M	\$73 M
Class 2: Third-Party Payers	\$1,825 M	\$2,399 M
Proposed Class 3: Uninsured Cash Payers	\$242 M	\$281 M
<b>Total</b>	<b>\$2,131 M</b>	<b>\$2,753 M</b>

73. I understand that the duration of PBM/TPP contracts is generally two to three years.<sup>56</sup> Since my statistical analysis of the detailed real-world reimbursement data shows

<sup>56</sup> As Kimberly McDonough states at p. 8 of her Expert Report, “Overwhelmingly, contracts between third party payors and PBMs are written for a term of three years, with automated renewal provisions. Although contracts may be terminated prior to their full term, most contracts limit this option to circumstances in which a party fails to perform or engages in an activity that constitutes breach. In those rare contracts permitting early termination, significant financial penalties apply or long notices are required, limiting this option. Because contract terms are static for the three year terms of the contract, the pharmacy discount

no evidence of systematic push-back over nearly three years, I see no evidence of systematic renegotiation of PBM/TPP contracts over the Class Period. There would have been some contract renewals/renegotiations occurring in the normal course of business over the Class period. There is no evidence that such normal renewals/renegotiations reduced the impact of the Scheme. Furthermore, even if some reduction in the mark-up occurred on average or for some drugs, my damage methodology incorporates that reduction and reduces the damages calculated. Hence, the assumption that contract renegotiation/normal renewals occurred within two years of the peak of the Scheme and eliminated all impacts of the Scheme thereafter (as calculated in Table 3) yields a very conservative measure of damages.

I declare that this declaration is true and correct.



Raymond S. Hartman

Executed on September 14, 2007

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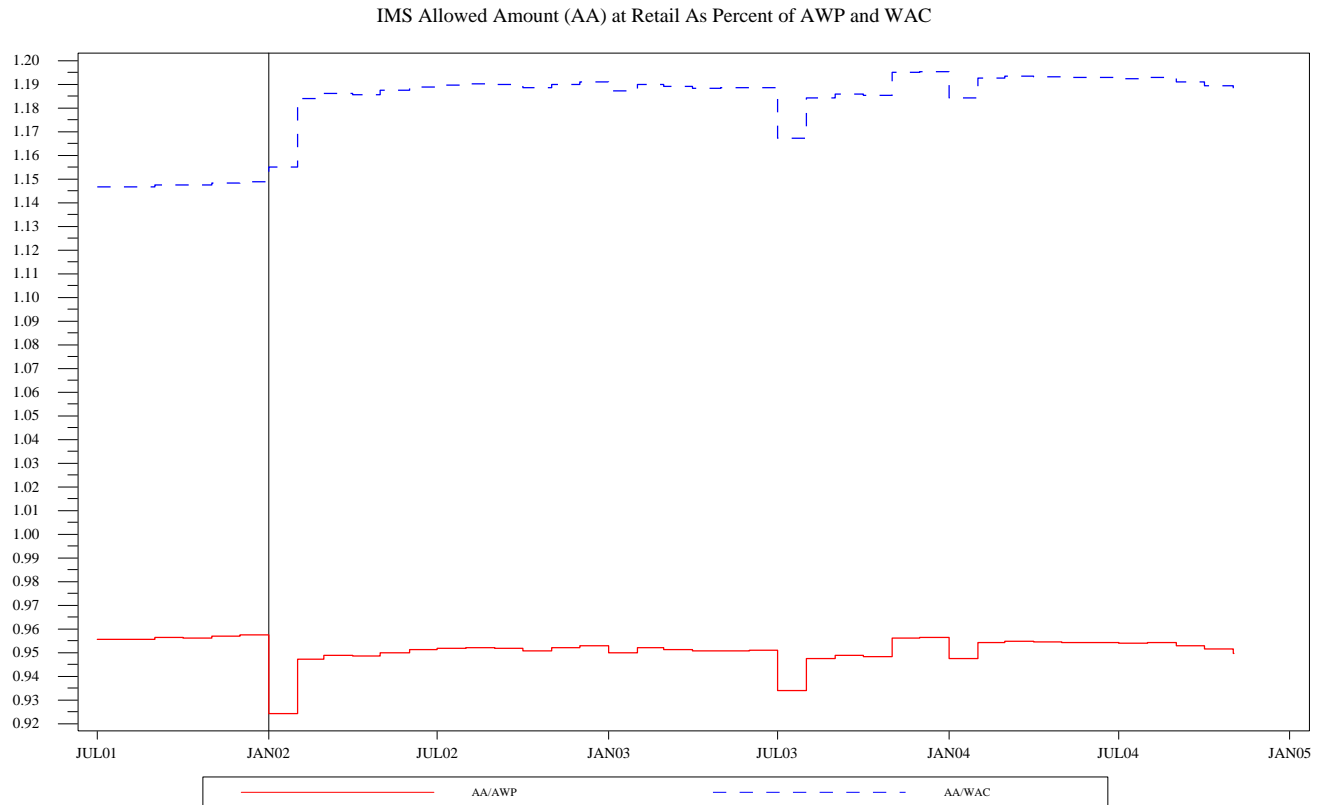
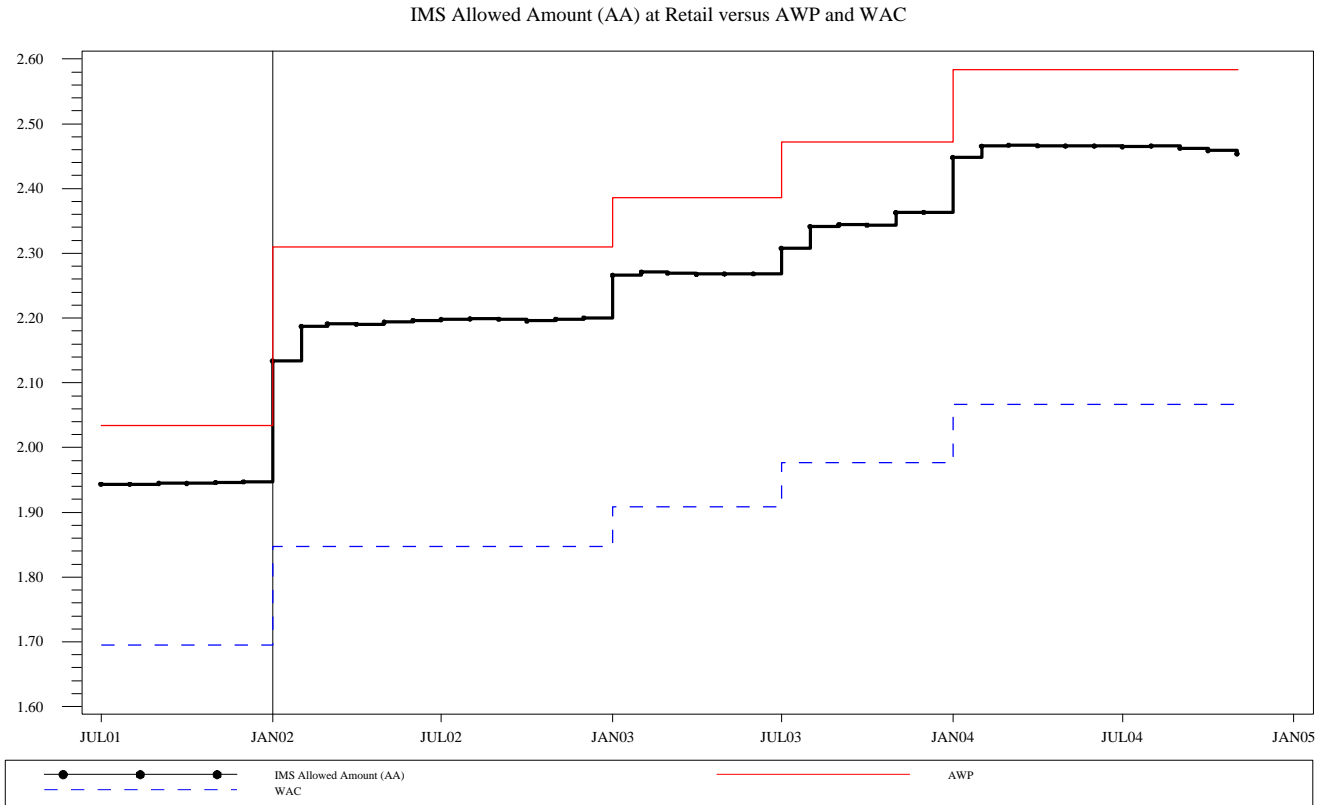
rates implemented on January 1, 2002 would continue until December 31, 2005 before an opportunity arose for changes to offset the AWP price increases.”

This is also confirmed in academic literature. See, for example, Haiden A. Huskamp, et al., “The Medicare Prescription Drug Benefit: How Will the Game Be Played,” *Health Affairs*, 19 (2), p. 12: “Two- and three-year durations are common in private PBM contracts.”

**DECLARATION FIGURE 1**

Figure 1.a

## LIPITOR 10MG

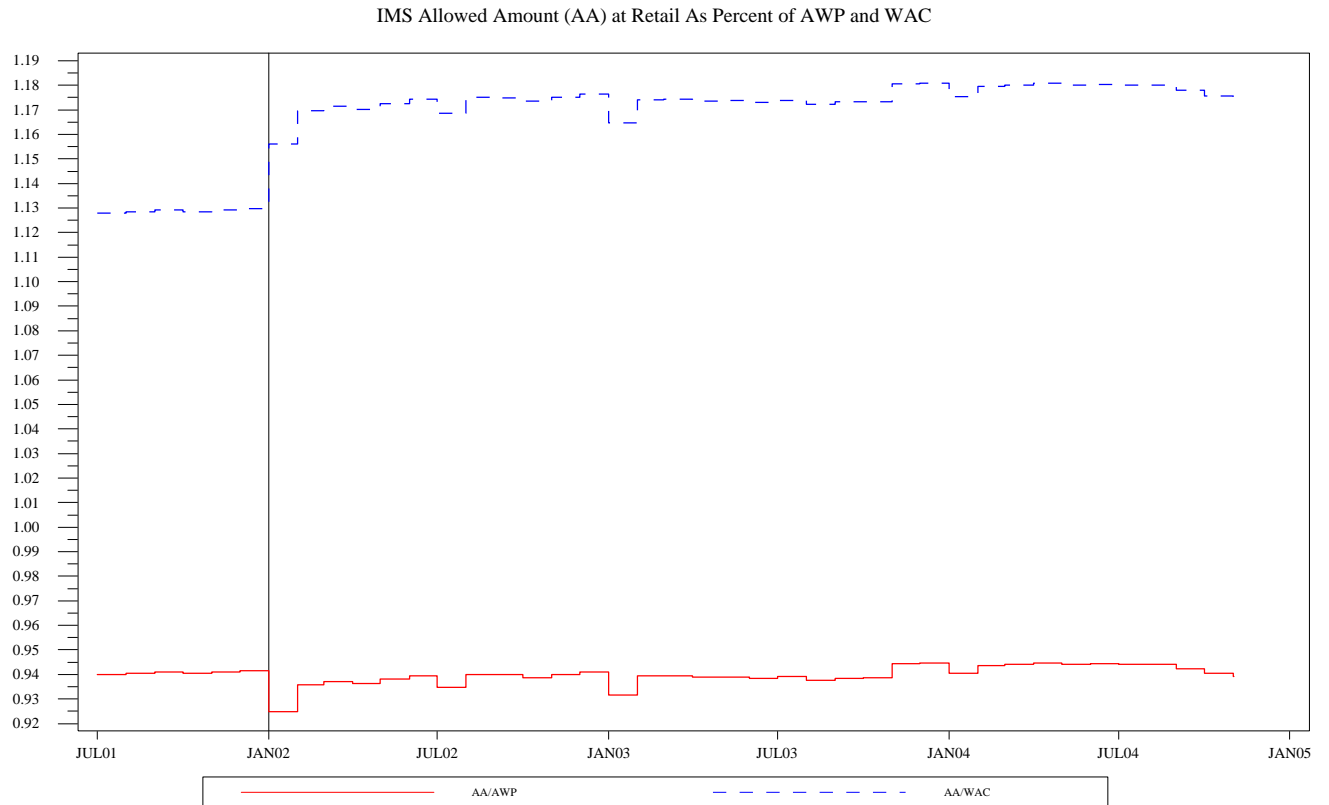
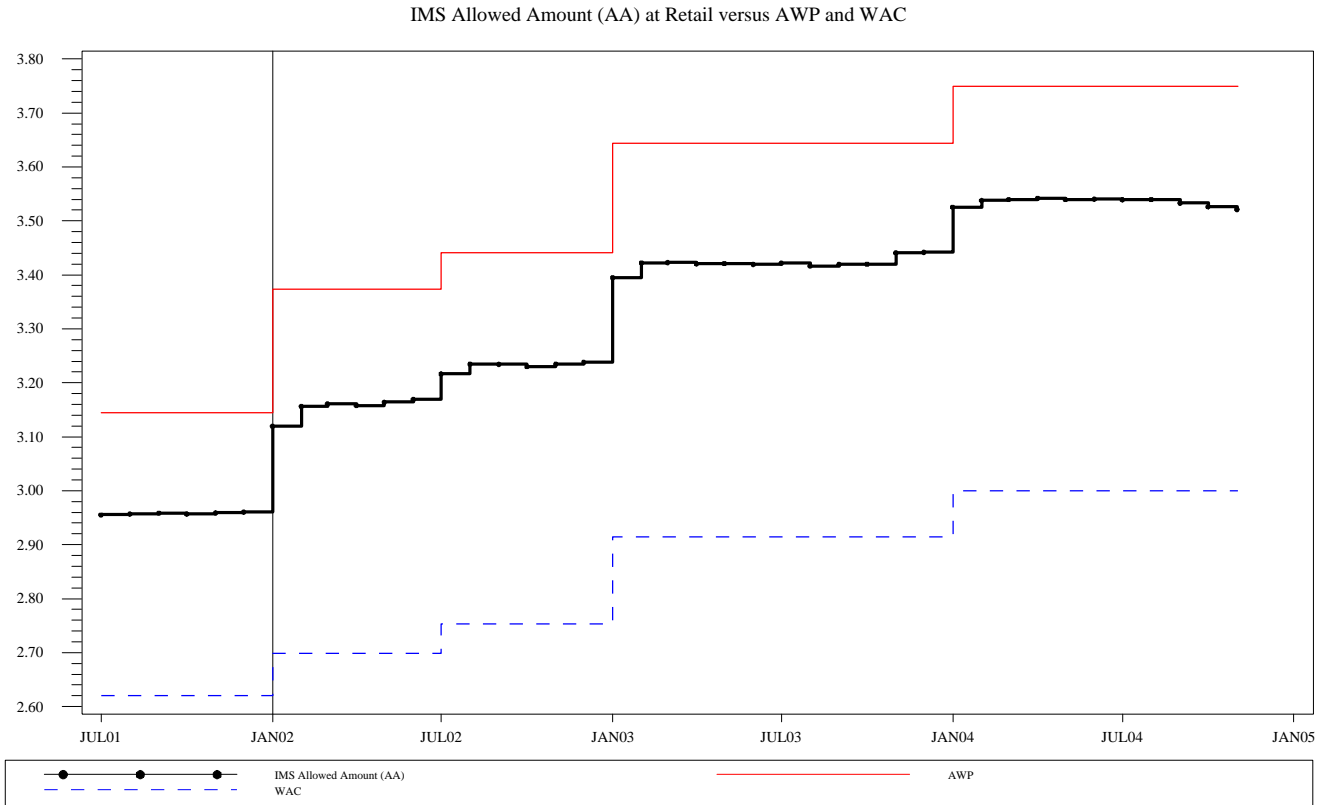


Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

Figure 1.b

## LIPITOR 20MG

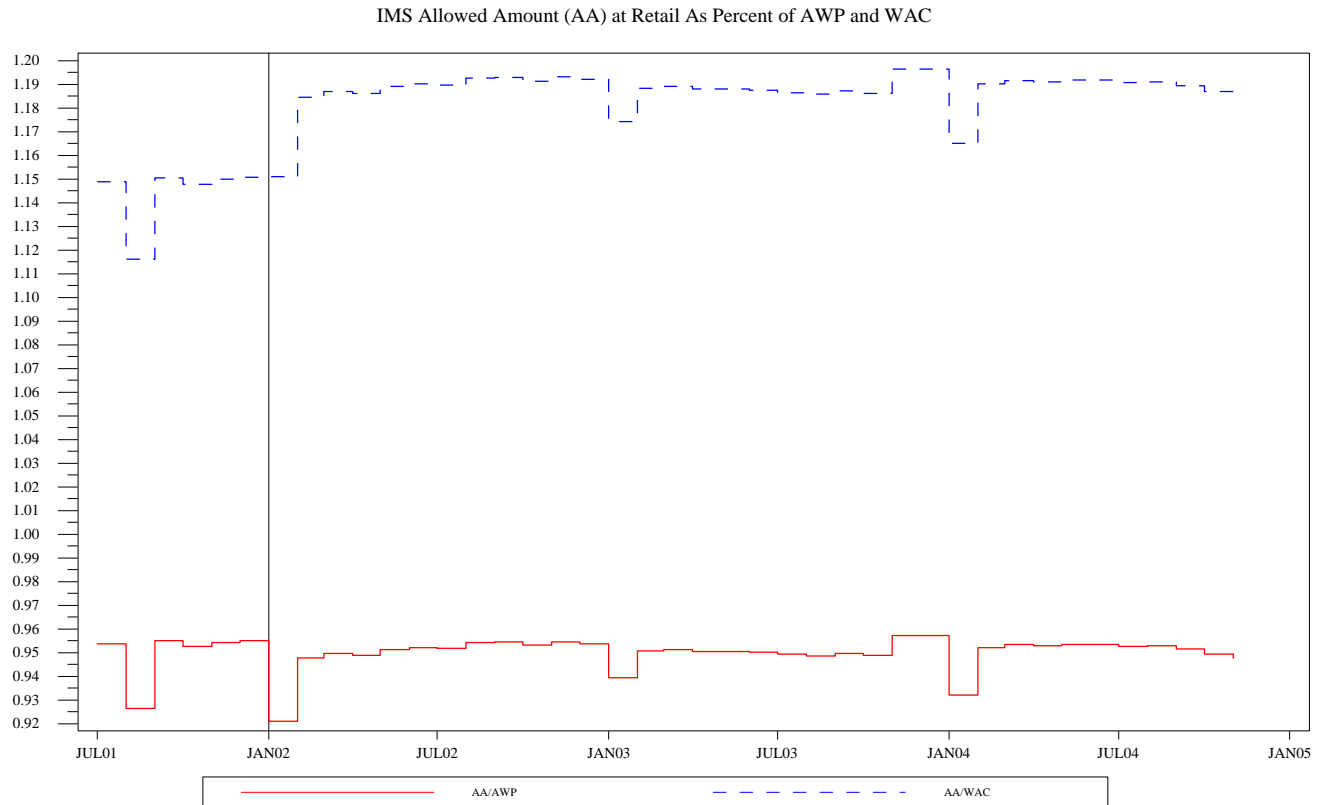
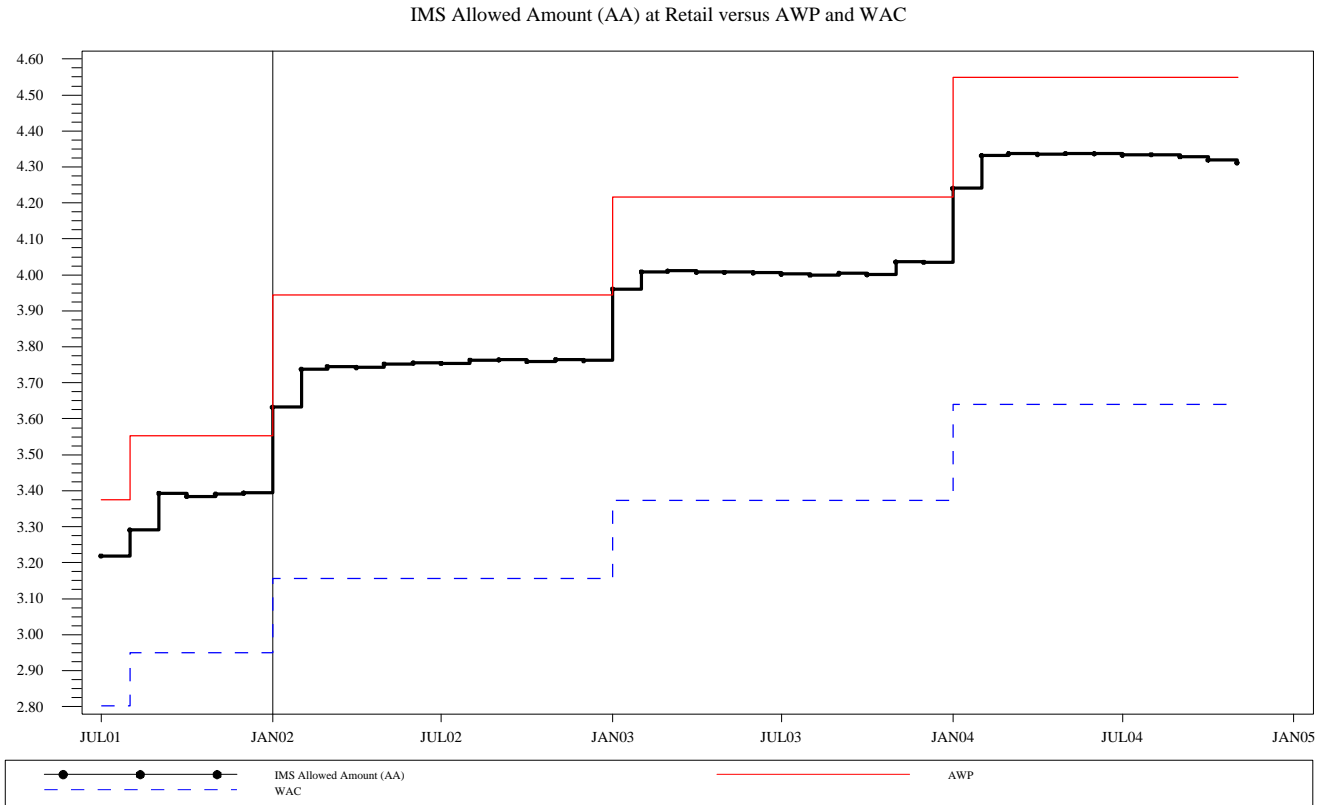


Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

Figure 1.c

## PLAVIX 75MG

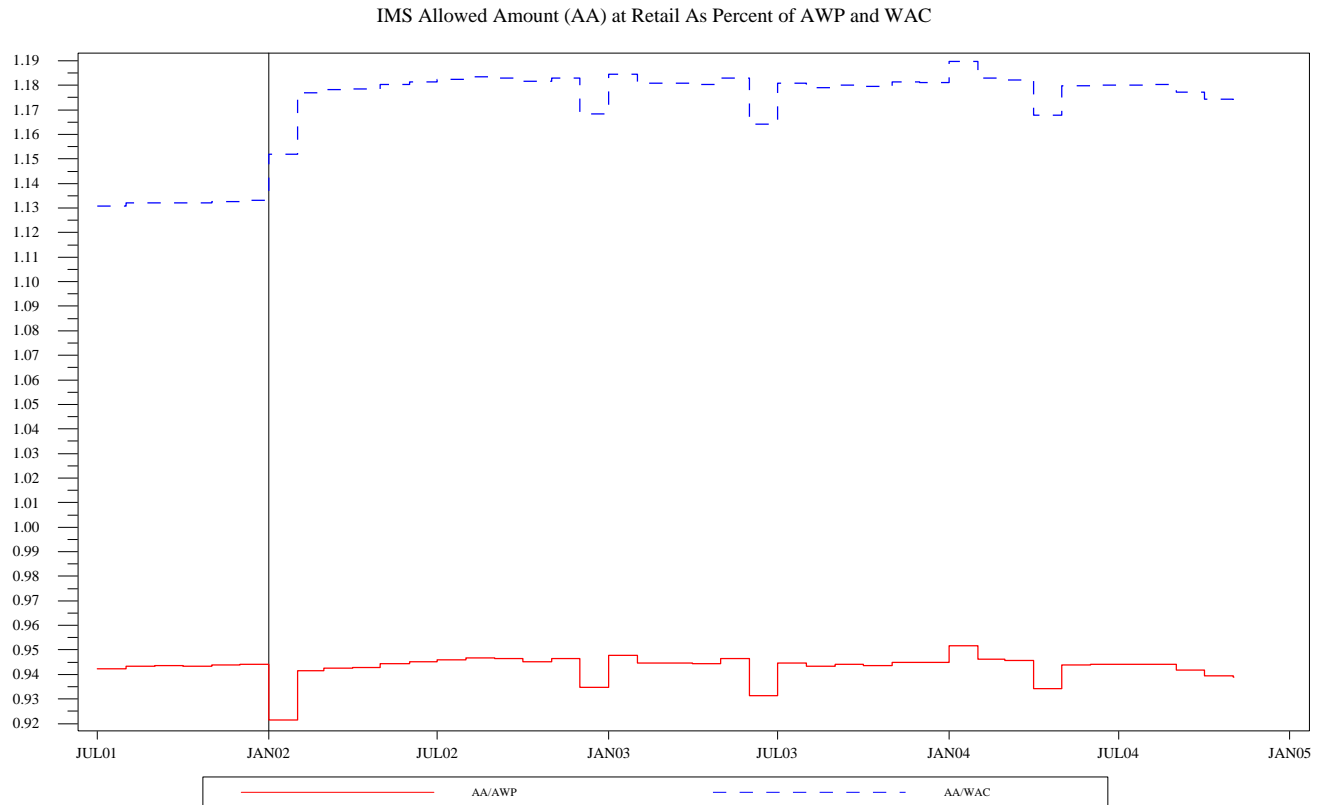
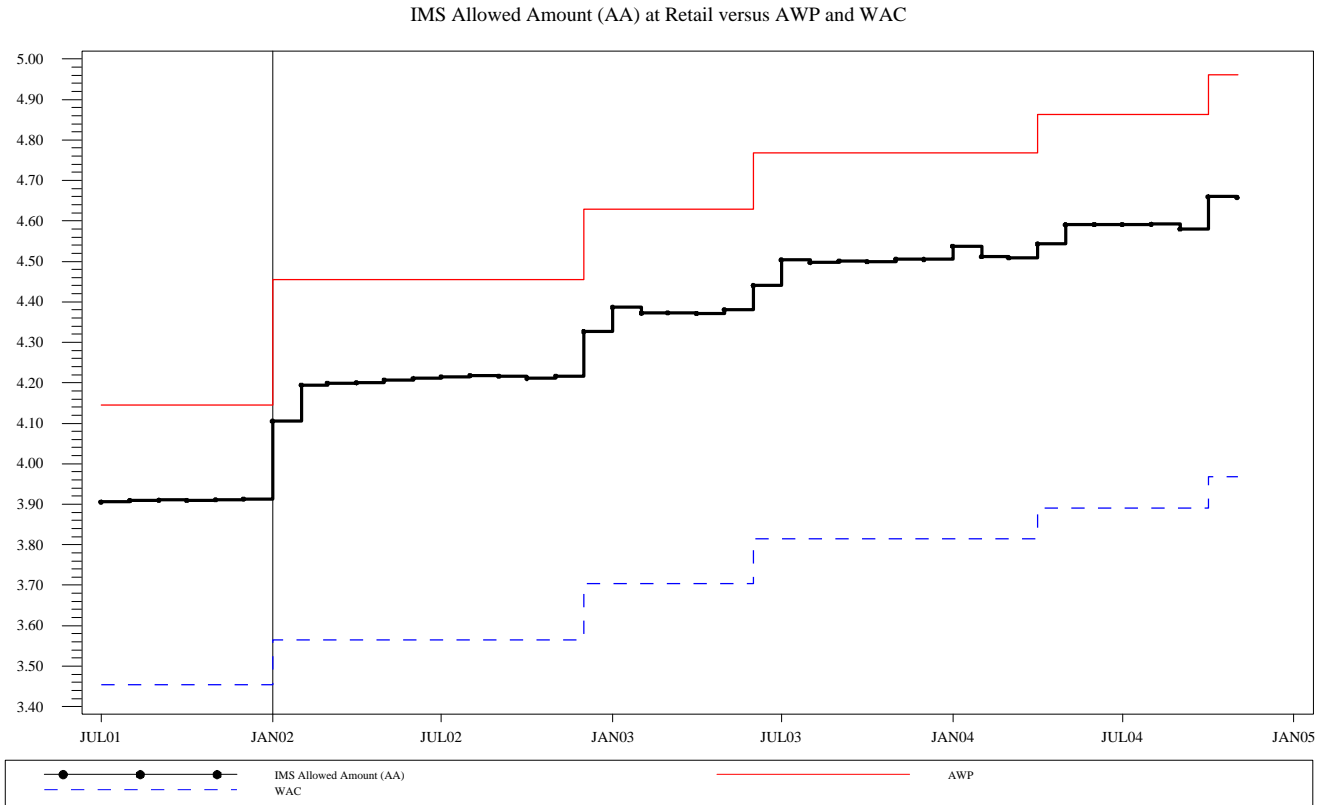


Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

Figure 1.d

## PREVACID 30MG



Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

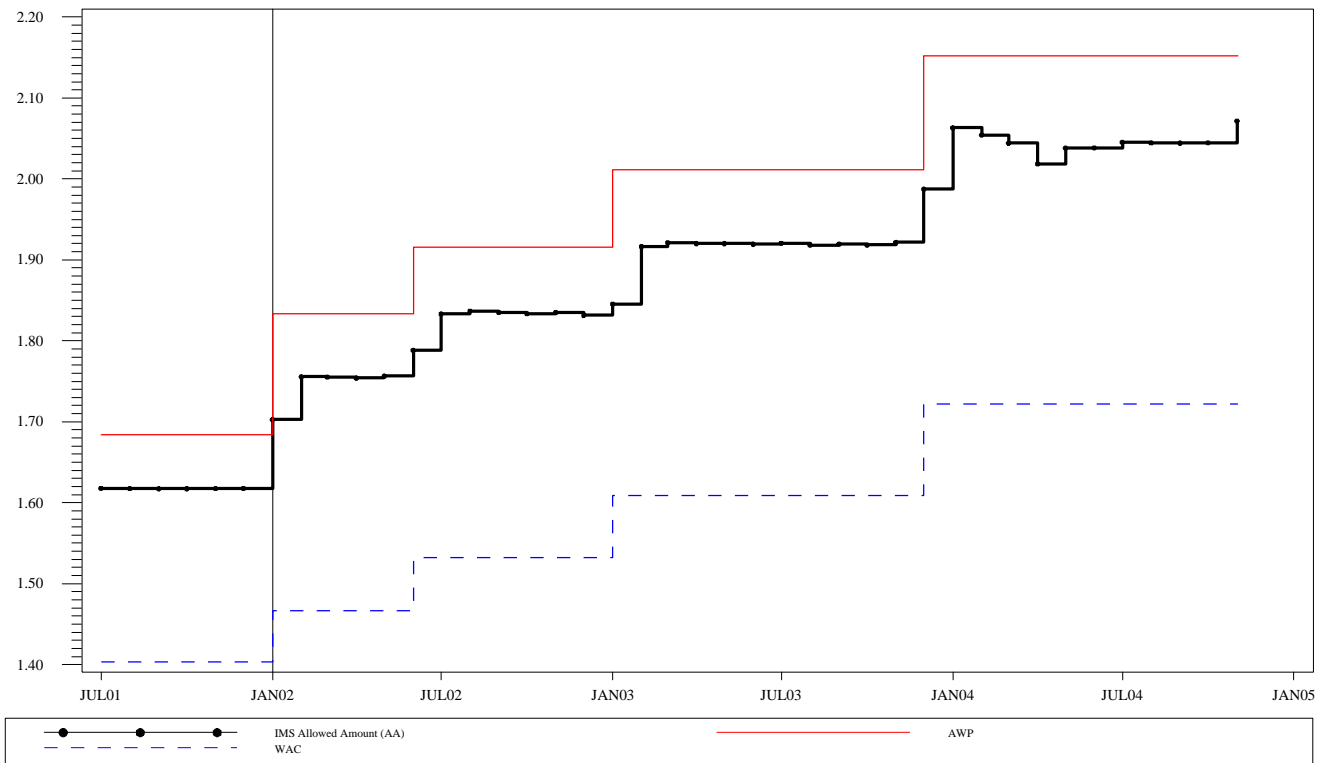
*Subject to Protective Order*



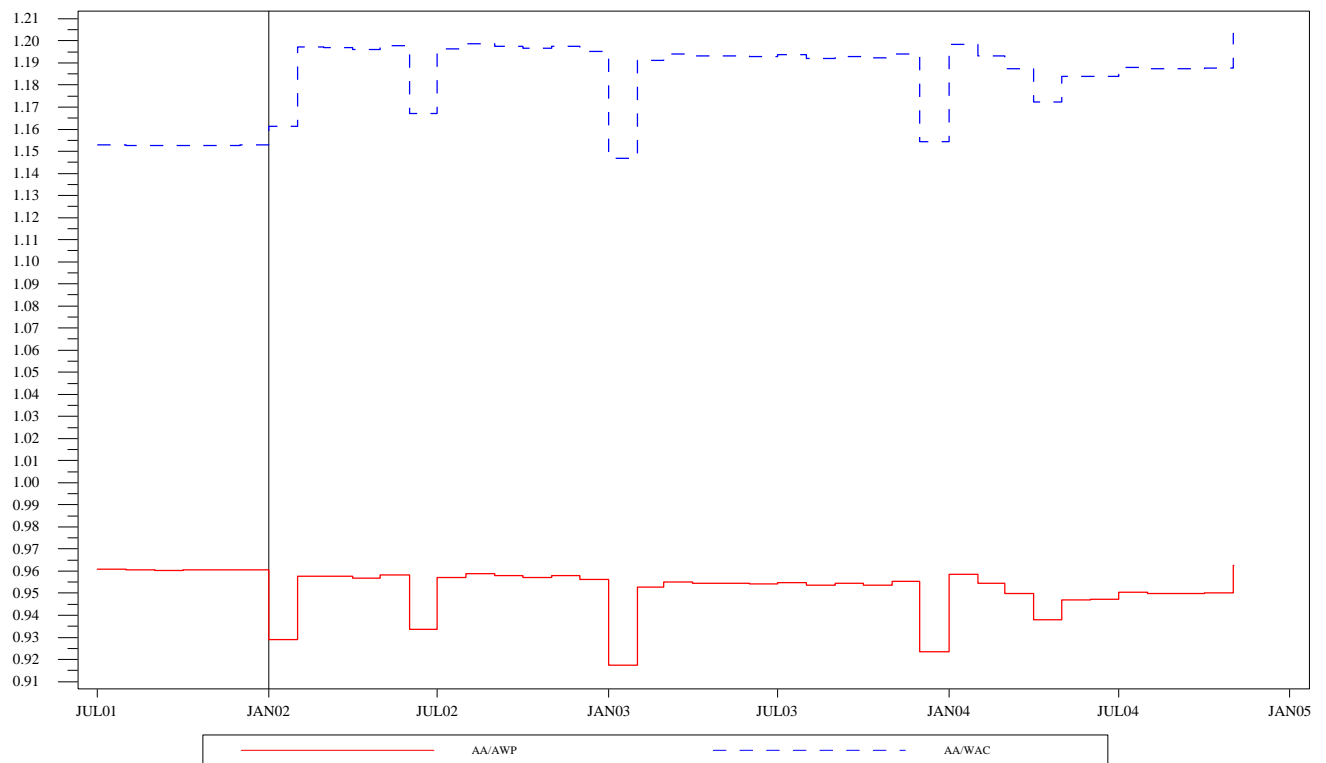
Figure 1.e

## WELLBUTRIN SR 150MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

**ATTACHMENT A.1**

January 2007

**Raymond S. Hartman**  
***Curriculum Vita***

Date of Birth: 3/31/47

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**DEGREES**

B.A. (MAGNA CUM LAUDE) Princeton University 1969  
M.S. Massachusetts Institute of Technology 1971  
Ph.D. Massachusetts Institute of Technology 1977

**Ph.D. DISSERTATION**

An Oligopolistic Pricing Model of the U.S. Copper Industry (MIT, 1977)

**HONORS, SCHOLARSHIPS, AND FELLOWSHIPS**

1969-71	National Science Foundation Fellowship to MIT
1965-69	Alfred P. Sloan Scholarship to Princeton
1969	Woodrow Wilson Fellowship Honorable Mention
1965	National Merit Scholarship Finalist

**RESEARCH AND TEACHING INTERESTS**

Econometrics/Statistics  
The Economics of Regulated Industries  
Energy and Environmental Economics  
Microeconomics  
Industrial Organization  
Law and Economics

**POSITIONS**

1967-1969 Research Staff, Financial Research Center and Center for Economic Research, Princeton University

1970 Research Staff, Board of Governors, Federal Reserve Board, Washington, DC

1972-1992 Consultant and Staff Economist, Arthur D. Little, Inc.

1977-1984 Research Faculty, Massachusetts Institute of Technology

1977-1983 Assistant Professor, Department of Economics, Boston University

1983-1989 Associate Professor, Department of Economics, Boston University

1983-1988 Principal & Academic Principal, The Analysis Group

1988-1993 Visiting Associate Professor/Visiting Faculty, Boalt School of Law, University of California, Berkeley

1988-1995 Founding Principal, The Law and Economics Consulting Group

1995-1996 Vice President, Charles River Associates

1996-1999 Senior Consultant, Charles River Associates

1996-2000 Director, Cambridge Economics, Inc.

2000-2004 Special Consultant, Lexecon Inc.

1997- Director and President, Greylock McKinnon Associates

**OTHER PROFESSIONAL ACTIVITIES**

Research Referee, *Bell/Rand Journal of Economics, Resources Policy, IPC Science and Technology Press, Management Science, Land Economics, Science, Energy Journal, Applied Economics, Econometrica, Review of Economics and Statistics, Journal of Business and Economic Statistics, International Economic Review, Journal of Economics and Management Strategy, Pakistan Journal of Applied Economics, Journal of Health Economics, American Economic Review, Review of Industrial Organization*

**PAPERS APPEARING IN OR BEING SUBMITTED FOR PUBLICATION IN REFEREED JOURNALS AND BOOKS**

"Frontiers in Energy Demand Modeling," Annual Review of Energy, 4, 1979.

"The Economic Impacts of Environmental Regulations on the US Copper Industry," with K. Bozdogan and R Nadkarni, The Bell Journal of Economics, 10(2), Autumn 1979, pp 589-618.

"Schumpeterian Waves of Innovation and Infrastructure Development in Great Britain and the United States: The Kondratieff Cycle Revisited," with D. Wheeler, Research in Economic History, 1979, Vol 4, Chapter 2.

"U. S. Demand for Copper: An Introduction to Theoretical and Econometric Analysis," with K. Bozdogan, in R. Mikesell, The World Copper Industry, Resources for the Future, 1979, Chapter 5.

"Some Evidence on Differential Inventory Behavior in Competitive and Non-Competitive Market Settings,"

Quarterly Review of Economics and Business, 20(2), Summer 1980, pp. 11-27.

"Short-Run Residential Demand for Fuels: A Disaggregated Approach," with A. Werth, Land Economics, 57(2), May 1981, pp. 197-212.

"An Analysis of Department of Energy Residential Appliance Efficiency Standards," The Energy Journal, 2(3), Summer 1981, pp. 49-70.

"A Note on the Use of Aggregate Data in Individual Choice Models: Discrete Consumer Choice Among Alternative Fuels for Residential Appliances," Journal of Econometrics, 18, 1982, pp. 313-335.

"A Probability Model of Oligopoly Pricing," Applied Economics, 14(3), June 1982, pp. 219-234.

"A Note on Externalities and the Placement of Property Rights: An Alternative Formulation to the Standard Pigouvian Results," The International Review of Law and Economics, 2(1), June 1982, pp. 111-118.

"A Note on the Appropriateness of Conditional Logit for the Modeling of Residential Fuel Choice," Land Economics, 58, November 1982, pp. 478-87.

"The Estimation of Short-Run Household Electricity Demand Using Pooled Aggregate Data," Journal of Business and Economic Statistics, 1(2), April 1983, pp. 127-135.

"The Importance of Technology and Fuel Choice in the Analysis of Utility-Sponsored Conservation Strategies for Residential Water Heating," The Energy Journal, 5(3), July 1984.

"Measuring the Effects of Utility-Sponsored Conservation Programs - Do the Programs Work," Energy Systems and Policy, 8(3), 1984.

"The Estimation of the Effects of Utility-Sponsored Conservation Programs," with M. Doane, Applied Economics, 18(1), 1986, pp. 1-25.

"Household Discount Rates Revisited," with M. Doane, The Energy Journal, 7(1), Winter 1986.

"Energy Conservation Programmes: The Analysis and Measurement of Their Effects," Energy Policy, October 1986.

"Product Quality and Market Efficiency: The Effect of Product Recalls on Resale Prices and Firm Valuation," The Review of Economics and Statistics, 69(2), May 1987, pp. 367-371.

"The Use of Hedonic Analysis for Certification and Damage Calculations in Class Action Complaints," with M. Doane, The Journal of Law, Economics and Organization, Fall 1987.

"Taking the Con Out of Conservation Program Evaluation" with Michael Doane, Resources and Energy, 9, 1987, pp. 187-207.

"Self-Selection Bias in the Evaluation of Voluntary Energy Conservation Programs," Review of Economics and Statistics, 70(3), August 1988.

"Household Preference for Interruptible Rate Options and the Revealed Value of Service Reliability," with

M. Doane and C.K. Woo, The Energy Journal, 9, 1988.

"Households' Perceived Value of Service Reliability: An Analysis of Contingent Valuation Data," with M. Doane and C.K. Woo, The Energy Journal, 9, 1988.

"An Empirical Model of Product Design and Pricing Strategy," International Journal of Industrial Organization, 7(4), December 1989.

"Hedonic Methods for Evaluating Product Design and Pricing Strategies," Journal of Economics and Business, 41(3), August 1989.

"Status Quo Bias in the Measurement of Value of Service," with M. Doane and C.K. Woo, Resources and Energy, Volume 12, 1990, pp. 197-214.

"Product Emulation Strategies in the Presence of Reputation Effects and Network Externalities: Some Evidence from the Minicomputer Industry," with D. Teece, Economics of Innovation and New Technology, Volume 1, 1990, pp. 157-182.

"Consumer Rationality and the Status Quo," with M. Doane and C.K. Woo, Quarterly Journal of Economics, Volume 106, February, 1991, pp. 141-162.

"A Monte Carlo Analysis of Alternative Estimators in Models Involving Selectivity," Journal of Business and Economic Statistics, 9(1), January, 1991, pp. 41-49.

"Assessing Market Power in Regimes of Rapid Technological Change," with D. Teece, W. Mitchell and T. Jorde, Industrial and Corporate Change, 2(3), 1993, pp. 317-350.

"Estimation of Household Preferences for Long Distance Telecommunications Carrier," with Z. Naqvi, Journal of Regulatory Economics, 6(2), May, 1994, pp. 197-220.

"Strategic Rate Making in the Context of Dynamic Ramsey Pricing," with K. Jensen and K. Seiden, Applied Economics, 26, 1994, pp. 363-374.

"Incentive Regulation: Market Based Pollution Control for the Real World?" with David Wheeler, in Claudio Frischtak, ed., Regulatory Policies and Reform: A Comparative Perspective, World Bank/Oxford University Press, chapter 11, 1996.

"The Efficiency Effects of Electric Utility Mergers: Lessons from Statistical Cost Analysis," Energy Law Journal, 17(2), Fall 1996.

"The Use of Regression Techniques in Transfer Price Analysis," with Delores Wright and J.D. Opdyke, European Taxation, International Bureau of Fiscal Documentation, TP, Suppl. No. 18, July 1996.

"The Regulatory Contract and Restructuring: A Modest Proposal," with R.D. Tabors, The Electricity Journal, 9(10), December 1996.

"Predicting the Efficiency Effects of Mergers," Journal of Forensic Economics, 9(3), Fall 1996.

"The Cost of Air Pollution Abatement," with David Wheeler and Manjula Singh, Applied Economics,

Volume 29, 1997.

"Optimal Operating Arrangements in the Restructured World: Economic Issues", with R.D. Tabors, Energy Policy, 25(7), 1997.

"The Use of Statistical Methods in Disparate Impact Cases: The Northern Mariana Islands Case," Litigation Economics Digest, 3(1), Summer 1998.

"How Good a Deal Was the Tobacco Settlement?: Assessing Payments to Massachusetts", with David Cutler, Arnold Epstein, Richard Frank, Charles King, Joseph Newhouse, Elizabeth Richardson and Meredith Rosenthal, Journal of Risk and Uncertainty, 21(2/3), 2000.

"Price-Performance Competition and the Merger Guidelines," Review of Industrial Organization, 18, 2001.

"The Microeconomic Analysis of Pollution, Pollution Abatement and Pollution Abatement Regulation," with D. Wheeler, The Pacific and Asian Journal of Energy, 10(2), December 2000.

"The Economic Impacts of the Tobacco Settlement," with David Cutler, Jonathan Gruber, Mary Beth Landrum, Joseph Newhouse and Meredith Rosenthal, Journal of Policy Analysis and Management, 21(1), Winter 2002.

"Tobacco manufacturers are now compensating states for smoking-related costs. How will this affect the economy?", with David Cutler, Jonathan Gruber, Joseph Newhouse and Meredith Rosenthal, Regional Review, Federal Reserve Bank of Boston, 12(2), 2002, Quarter 2.

"An Analysis of Price Discrimination in Brand Name Drug Wholesaling," with Richard Frank and Benjamin Sommers, International Journal of the Economics of Business, forthcoming 2007.

Contributions of economic forecasting articles to the popular press, such as Management Forum and Nations Business

## **PAPERS IN PROGRESS**

"Welfare Measures in Discrete Choice Markets"

"Market Definition and Pharmaceutical Market Competition," with Richard Frank and Haiden Huskamp

## **CONFERENCE PAPERS AND PRESENTATIONS**

"Policies To Maximize Economic Growth In Japan," in Foreign Experience with Monetary Policies to Promote Economic and Social Priority Programs, Committee on Banking and Currency, 92nd Congress, Washington, May, 1972.

Comments on "Econometric Models of Choice and Utilization of Energy-Using Durables" by D. Brownstone, Electric Power Research Institute Workshop on the Choice and Utilization of Energy Using



Durables, Boston, Nov. 1-2, 1979.

"Market Penetration of Energy Technologies," talk given in the Boston University 1980 Spring Lecture Series, "Man and Energy: Energy and Regional Growth," 1979.

"Discrete Consumer Choice among Alternative Fuels and New Technologies for Residential Energy-Using Appliances," MIT Energy Laboratory Working Paper, #MIT-EL-79-049WP, August, 1979. Paper given at the TIMS/ORSA Meetings, "Market Penetration Assessment of New Energy Technologies," May 4-7, 1980, and at the MIT Industrial Liaison Program, "The Future Demand for Energy," March 18, 1980.

"Department of Energy Residential Appliance Efficiency Standards-An Overview," Papers and Proceedings, Second Annual North American Meeting of the International Association of Energy Economists, October 1980.

Comments on "A Review of the Conditional Demand Approach to Electricity Demand Estimation," by S. George, Electric Power Research Institute Workshop on End-Use Modeling and Conservation Analysis, Atlanta, Nov. 17-19, 1980.

"Measuring the Effects of Utility Sponsored Conservation Programs." Paper presented at the Fourth Symposium on Electric Utility Load Forecasting: Focus on the Short Run, Electric Power Research Institute Workshop, Dallas, Texas, December 1982.

"Measuring the Impact of Utility Residential Conservation Programs: Two Case Studies," with S. Braithwait and M. Doane. Paper presented in the Electric Power Research Institute National Symposium Proceedings, Annual Review of Demand and Conservation, Atlanta, May 1984, and Buildings and Their Energy Systems, St. Louis, October 1984.

"Measuring Program-Induced Energy Savings: A Comparison of Alternating Methods," with M. Doane, in Electric Power Research Institute National Symposium Proceedings, Energy Expo 1985: Meeting Energy Challenges, Peragon Press.

"Taking the Con Out of Conservation Program Evaluation." Paper presented at "Energy Conservation Program Evaluation," Argonne National Laboratory Conference, Chicago, August, 1985, and at the Eighth Annual North American Conference of the International Association of Energy Economists, MIT, Cambridge, November 1986.

"Quality and Efficiency of Limited Information Maximum Likelihood Estimators: A Monte Carlo Simulation Study," with M. Sonnenschein. Paper presented at the 27th International Meeting of the Institute of Management Sciences, Brisbane, Australia, 1986.

"Product Emulation Strategies in the Presence of Reputation Effects and Network Externalities: Some Evidence from the Minicomputer Industry," with D. Teece. Paper presented at National Bureau of Economic Research, Conference on Productivity Measurement, July, 1987, and Stanford Center for Economic Policy Research Conference on Compatibility Standards and Information Technology: Business Strategy and Public Policy Issues, February 1989.

Comments and discussion on "Efficient Postal Discounts" by John Panzar and "Efficient Component Pricing for Postal Service: It Ain't That Efficient!" by Michael Crew and Paul Kleindorfer -- both papers presented at the Session on Postal Economics, American Economic Association Meetings, Washington

D.C., January 7, 1995.

"Making Electricity Markets Work: Competitive Models and Constraints to Competition," paper given at the Conference, "Keeping the Lights On: Technical and Institutional Issues in a Restructured Electricity Industry," Massachusetts Institute of Technology, Cambridge, October 19-20, 1995.

"A Discussion of Market Power in a Non-Merger Context: RTG/Power Pool Commercial Practice Issues," paper given at the Conference "Market Power: The Antitrust Dilemma for the Electric Industry," Washington DC, March 4, 1996.

Comments and discussion on "Electricity Data Needs: An Economic Perspective," by Douglas Hale, Office of Statistical Standards, Meeting of the American Statistical Association Committee on Energy Statistics, Washington, DC, Fall 1996.

## **MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT); ANALYSIS GROUP, INC., (AG); LAW AND ECONOMICS CONSULTING GROUP (LECG); AND ARTHUR D. LITTLE, INC., (ADL) REPORTS**

### **MIT Related**

MIT Energy Management and Economics Group, The Conditional/Generalized Maximum Likelihood Logit Computer Program: Instructions for Use, MIT Energy Laboratory Report, MIT-EL-78-013, June 1978.

MIT Model Assessment Group, Independent Assessment of Energy Policy Models: Two Case Studies, Report to the Electric Power Research Institute, EPRI-EA-1071, Project 1015-1, May 1979.

MIT Residential Energy Demand Group, Aggregate Pooled Data Utilized and/or Developed for Residential Energy Demand, MIT Energy Laboratory Working Paper, #MIT-EL-79-047, August 1979.

MIT Energy Laboratory, Assessment of the Appropriate Methods of Incorporating Appliance Engineering Analyses and Data into Residential End-Use Demand Models, Report to the Electric Power Research Institute, Number EA 4146, 1982.

Hartman, Suggested Procedures for the Validation of Bonneville Power Administration's Residential Energy Forecasting Model, Report to Bonneville Power Administration, June 1983.

R. Hartman and P. Spinney, Incentive Regulation for the Restructured Electric Power Industry in Massachusetts, MIT School of Engineering, Laboratory for Electromagnetic and Electronic Systems, LEES Working Paper wp-96-005, September, 1996.

### **AG Related**

AG, Recent Contributions to the Theory and Measurement of Service Reliability, Task 1 Report, Prepared for Niagara Mohawk Power Corporation, September, 1987.

AG, Review of Existing Niagara Mohawk Power Corporation Procedures for Collecting Data on Outage

Costs, Task 2 Report, Prepared for the Niagara Mohawk Power Corporation, September, 1987.

AG, The Design of Methods and Implementation Procedures to Collect Data on Customer Outage Costs and the Value of Service Reliability, Task 3 Report, Prepared for the Niagara Mohawk Power Corporation, January 1988.

AG, Customer Outage Costs and the Value of Service Reliability: Draft Analysis Plan for Residential and Large Commercial/ Industrial Customers, Draft Report prepared for the Niagara Mohawk Power Corporation, August 1988.

### **LECG Related**

LECG, Optimal Plant and Firm Size in the Electric Power Industry: Report on Academic/Industry Literature, Report to the Division of Ratepayer Advocates, California Public Utility Commission, August, 24, 1989.

LECG, Analysis of Competitive Consequences and Efficiency Claims for the Proposed Merger Between Southern California Edison and San Diego Gas and Electric, Report to the Division of Ratepayer Advocates, California Public Utility Commission, December, 1989.

LECG, Report on the Proposed Merger of the Southern California Edison Company and the San Diego Gas and Electric Company, Report to the California Public Utilities Commission, Division of Rate Payer Advocates, Application 88-12-035, February, 1990, Exhibit 10,500;

LECG, A Critique of the Commodity Futures Trading Commission (CFTC) Study: "Economic Analysis of Dual Trading on Commodity Exchanges", Report prepared for the Coffee, Sugar and Cocoa Exchange, Inc., March, 1990

LECG, Report on the Proposed Merger of the Southern California Edison Company and the San Diego Gas and Electric Company -Surrebuttal: Econometric Analysis of Merger Impacts, Report to the California Public Utilities Commission, Division of Rate Payer Advocates, Application 88-12-035, July, 1990, Exhibit 10,511.

LECG, A Critical Analysis of the Proposed Merger Between Kansas Power and Light Company and Kansas Gas and Electric Company, Report to the Missouri Public Service Commission, March 25, 1991.

LECG, Petitioners' Economic Testimony in the Matter of Certain Carbon Steel Flat Products, Final Hearing before the United States International Trade Commission, June 29-30, 1993.

LECG, Petitioners' Post Hearing Brief in the Matter of Certain Carbon Steel Flat Products, before the United States International Trade Commission, July 7, 1993.

Hartman, "Returns to Scale and Scope in the Electric Utility Industry: Review of Existing Econometric Analyses and Examination of Their Applicability to the Proposed Merger Between Southern California Edison and the San Diego Gas & Electric Company," LECG Working paper, September, 1989.

Hartman, "Measuring Productivity for the United States Postal Services," Report to the Resource Technology Center of Arthur D. Little, Inc. and the United States Postal Services, January, 1991.

Hartman, "The Relevance of Incentive Regulation to the United States Postal Service," Report to the Resource Technology Center of Arthur D. Little, Inc. and the United States Postal Services, February, 1992.

Hartman, "The Relevance of Incentive Regulation for Environmental Policy Modeling," Report to the World Bank, February, 1992.

Hartman, "Issues in the Valuation and Aggregation of Goods and Services: A Concept Paper," Report to the World Bank, Socio-Economic Data Division, International Economics Department, May, 1992.

Hartman, "A Framework for the Spatial Development of Infrastructure: The Electric Power Industry," Report to the Government of Indonesia, Bappenas, Jakarta, July, 1992.

Hartman, "Stimulating Pollution Abatement Efforts in the Brantas River Basin," Report to World Bank, Indonesian Environmental Mission, Jakarta, August, 1992.

Hartman, "Policies to Control Emissions from Energy Production and Use in Thailand," Report to the World Bank, East Asia Country Operations, January, 1993.

World Bank, Thailand: Managing Environmental Impacts in a High-Growth Economy, Country Economic Report, April 5, 1993.

#### **ADL Related**

ADL, Growth Patterns of U.S. Industries and Markets in 1973: The Year Ahead, 1972.

ADL, Tourism in Maryland: Analysis and Recommendations, Report to the Maryland Department of Economic and Community Development, 1972.

ADL, Economic Impact Study of the Pollution Abatement Equipment Industry, Report to the Environmental Protection Agency, December 1972.

ADL, Economic Transition of Distressed Communities, An Analytical Study, Report to the Economic Development Administration, U.S. Department of Commerce, 1974.

ADL, Tourism in Maine: Analysis and Recommendations, Report to the Maine Vacation Travel Analysis Committee, May 1974.

ADL, Tourism in San Diego: Its Economic, Fiscal and Environmental Impacts, Report to the City of San Diego, November 1974.

ADL, The Economic Impact of Proposed OSHA Airborne Arsenic Standards, Report to the American Smelting and Refining Company, June 1975.

ADL, Preliminary Projections of New England's Energy Requirements, Report to the New England Regional Commission, September 1975.

ADL, Economic Impact of Environmental Regulations on the U.S. Copper Industry, Preliminary Rough

Draft Report to the U.S. Environmental Protection Agency, 1976.

ADL, Pacific Gas and Electric Company Estimates of Energy Conservation Potential, 1980-2000, Report to the Public Utilities Commission of the State of California, June 1980.

ADL, Southern California Edison Estimates of Electricity Conservation Potential, Report to the Public Utilities Commission of the State of California, June 1981.

ADL, Southern California Edison Projections of Conservation Goals 1982-1986, Report to the California Public Utilities Commission for Southern California Edison, October 1981.

ADL, Estimate of Conservation Penetration for the Southern California Gas Company Service Area, 1981-1986, Report to the Southern California Gas Company, November 1981.

ADL, Electricity and Natural Gas Conservation Potential in the San Diego Gas and Electric Service Territory, Report to the Public Utility Commission of the State of California, April 1982.

ADL, Integrated Conservation Planning/Load Forecasting System Technical Users Guide, Report to San Diego Gas and Electric Company, Vols. I and II, Summer 1982.

ADL, A Method for Evaluating Residential Conservation Programs: Interim Report, Report to the Electric Power Research Institute, RP 1587, March 1983.

ADL, Measuring the Impact of Residential Conservation, Volume II: An Econometric Analysis of Portland General Electric Company Data, Report to the Electric Power Research Institute, EPRI EA-3606, September 1985.

ADL, Measuring the Impact of Residential Conservation, Volume III: An Econometric Analysis of General Public Utilities Inc. Data, Report to the Electric Power Research Institute, EPRI EA-3606, Project 1587, May 1986.

ADL, Measuring the Impact of Residential Conservation, Volumes IV: A Comparison of Alternative Methods, Report to the Electric Power Research Institute, EPRI EA-3606, Project 1587, May 1986.

ADL, Evaluation of EUA's Proposed Acquisitions of Unitil and Fitchburg Electric, Report to Gaston and Snow, March 12, 1990.

Hartman, "Critical Review of Selected Energy End-Use Models and Proposed Specifications for PG&E End-Use Modeling Efforts," Arthur D. Little, Inc., Working Memorandum #13 for Pacific Gas and Electric Co., June 1979, Arthur D. Little, San Francisco.

Hartman, "Potential State-of-the Art Energy Demand Models for Use in Developing an Integrated Natural Gas Forecasting and Conservation Planning System for Southern California Gas Company," Arthur D. Little Working Paper, June 1981, Arthur D. Little, San Francisco.

Hartman, "A Critical Review of the Delmarva 1981-2000 Load Forecast," with James C. O'Keefe, Arthur D. Little Working Paper, September 1981, Arthur D. Little, San Francisco.

Hartman, "Analyzing and Measuring the Effects of Utility Sponsored Conservation Programs," Arthur D.

Little Energy Group Discussion Paper, September 1982, Arthur D. Little, San Francisco.

## **UNPUBLISHED WORKING PAPERS**

"An Examination of the Use of Probability Modeling for the Analysis of Inter-fuel Substitution in Residential Fuel Demand," with M. Hollyer, MIT Energy Lab Working Paper #MIT-EL-77-018WP, July 1977.

"A Critical Survey of Three Copper Industry Models and Their Policy Uses," MIT Energy Lab Working Paper #MIT-EL-77-028WP, September 1977.

"The Evolutionary Model of Technical Change: Historical Evidence from Great Britain and the United States:, with D. Wheeler, mimeo, December 1977.

"A Critical Review of Single Fuel and Interfuel Substitution Residential Energy Demand Models," MIT Energy Laboratory Report #MIT-EL-78-003, March 1978.

"A Generalized Logit Formulation of Individual Choice," MIT Energy Laboratory Working Paper #MIT-EL- 79-010WP, February 1979.

"A Model of Residential Energy Demand," MIT Energy Laboratory Working Paper, #MIT-EL-79-041WP, August 1979.

"The Incorporation of Solar Photovoltaics into a Model of Residential Energy Demand," MIT Energy Laboratory Working Paper #MIT-EL 80-014WP, May 1980.

"Consumer Choice Among Alternative Fuels and Appliance Technologies: An Analysis of the Effects of Alternative Energy Conservation Strategies," MIT Energy Laboratory Working Paper #MIT-EL 82-036WP, June 1982.

"Estimation of Hedonic Supply Curves For Residential Water Heaters Using Technical Data and Federal Testing Guidelines," with Alan Cox and Mary Litterman, MIT Energy Laboratory Working Paper #MIT-EL 82-037WP, June 1982.

"A Monte Carlo Examination of the Heckman and the Manski-Lerman Estimators in Discrete/Continuous Models of Demand," October 1986.

"The Value of Service Reliability: Alternative Welfare Measures," with C.K. Woo, October, 1988.

"The Use of Hedonic Analysis in Defining and Measuring Market Size: The Extension of the Merger Guidelines to Heterogeneous Products," Working Paper No. 91-12, Program in Law and Economics. School of Law, Boalt Hall

## **EXPERIENCE IN CONSULTING AND EXPERT TESTIMONY**

### **Overview of Qualifications**

Dr. Hartman is an economist specializing in microeconomics, econometrics and the study of industrial organization. Microeconomics is the science used to analyze and characterize the behavior of groups of consumers and producers that constitute markets. Econometrics is a science that makes use of mathematics and statistics to measure and quantify economic behavior and economic phenomena in markets. The study of industrial organization makes use of both microeconomic theory and econometrics. It focuses upon the structure, conduct and performance of the participants (consumers and producing firms) in markets and industries, for the purposes of predicting behavior and addressing such policy issues as antitrust, regulation and industrial policy.

He has taught economics, conducted economic research and provided economic consulting in his areas of specialization for thirty-five years. He taught economics as an Assistant Professor and Associate Professor within the Department of Economics at Boston University over the period 1977-1988. He taught economics as a Visiting Associate Professor and member of the Visiting Faculty at the School of Law, Boalt Hall, University of California at Berkeley over the period 1988-1993. He was a member of the research faculty at MIT over the period 1977-1982, during which time he conducted research in energy markets for the United States Department of Energy. During the same time, he declined the offer of a Visiting Assistant Professorship within the Department of Applied Economics at MIT, and instead lectured on a selective basis. Since 1971, he has consulted to federal and state governmental bodies, private corporations, law firms, consulting companies, research organizations and international lending organizations. He has been and continues to be a research referee for a variety of academic journals, including the top academic journals in the country. He is the author of more than 100 refereed journal articles, book chapters and research/consulting reports.

He has submitted oral and written testimony before federal and state courts of law and regulatory commissions. His testimony as an expert witness has addressed anticompetitive behavior, merger efficiencies, breach of contract, employment discrimination, patent infringement, class certification and the estimation of damages in a variety of markets and industries including, but not limited to, the pharmaceutical industry, the health care services industry, the electric power industry, the banking industry, the agrochemical industry, the copper industry, the defense industry, the cable TV industry, the tobacco industry, the electrical and mechanical carbon products industry, the medical devices industry and the construction industry. He has consulted to counsel on litigation matters in a broader array of markets.

While his experience has been broadly-based across industries, two industries/markets have been primary subjects of substantial consulting, research and litigation support.

### **Experience in Energy Markets and Regulated Industries**

Since 1977, Dr. Hartman's expertise and experience have involved regulated industries generally and the markets for electric power and natural gas specifically. His consulting and/or litigation assignments have included load forecasting, evaluation of conservation and load management programs, econometric cost analysis, analysis of revenue requirements and rate-making, analysis of value of service reliability, the analysis of mergers and acquisitions, analysis of industry restructuring, analysis of manipulation of spot and future prices in energy markets, and analysis of contract damages arising from DOE's partial breach of the Standard Contract regarding storage of nuclear waste. In these assignments, Dr. Hartman has consulted for



such clients as Arizona Public Service, the Pacific Gas and Electric Company, the Southern California Edison Company, the Southern California Gas Company, the San Diego Gas and Electric Company, Portland General Electric Company, Bonneville Power Administration, General Public Utilities, Northeast Utilities, Niagara Mohawk Power Corporation, the Delmarva Power Corporation, Florida Power Corporation, Sith Energy, the California Energy Commission and Public Utilities Commission, the Missouri Public Service Commission, the Rhode Island Division of Public Utilities, the Attorney General of the State of Massachusetts, the Electric Power Research Institute, the Gas Research Institute, the U.S. Department of Energy, the U.S. Department of Justice, the World Bank, and the governments of Indonesia and Thailand. He has consulted for a number of other clients whose identity must remain confidential.

### **Experience in Health Care and Pharmaceutical Markets**

Over the past 10 years, Dr. Hartman has participated as testifying or consulting expert in a wide array of matters related to health-care markets generally and, more specifically, markets for medical devices and pharmaceutical products. For examples, working with a team of health care experts, he submitted written testimony assessing and measuring the impacts of smoking on Medicaid health care costs in the Commonwealth of Massachusetts. He submitted testimony analyzing the competitive impacts upon and damages to a class of dental laboratories caused by the restrictive dealer practices of a dominant U.S. manufacturer of medical prostheses - false teeth. He consulted to the group of wholesaler defendants in the Brand-Name Prescription Drugs Antitrust Litigation, addressing issues of wholesaler pricing across classes of trade. He consulted to counsel to a manufacturer of cardiovascular stents and other related devices in a variety of patent infringement matters, addressing such issues as competition, market penetration of new products and economic damages arising from patent infringement. He consulted for one group of private plaintiffs in the antitrust matter regarding the prescription drugs lorazepam & clorazepate and for the Federal Trade Commission in the matter of Hoechst Marion Roussel, Inc., Carderm Capital L.P. and Andrx Corporation concerning antitrust claims involving the prescription drug Cardizem CD. That consultation addressed issues of market definition, product competition, class certification and damage estimation. He consulted to counsel on the matter of damages to the class of direct purchasers of the prescription drug Taxol and on the matter of damages to the class of indirect end-payer purchasers of the prescription drugs K-Dur, Augmentin, Bextra, Celebrex and Vioxx. He submitted testimony addressing class certification, liability and/or damages for the class of end-payer purchasers in antitrust or RICO litigation concerning the prescription drugs Hytrin, BuSpar, Relafen, Lupron, Premarin, Cipro in the states of New York and California and in the United States, and Neurontin in the United States and Pennsylvania. In the MDL AWP litigation, he submitted testimony in support of the certification of the class of end-payer purchasers of those pharmaceutical products produced by AstraZeneca, the Bristol-Myers Squibb Group, the Johnson & Johnson Group, the GlaxoSmithKline Group and the Schering Plough Group that were alleged to have been the subject of a scheme to fraudulently inflate their Average Wholesale Price (AWP); he subsequently submitted testimony supporting findings of causation, liability and the calculation of damages for those end-payer groups for which class certification was granted. He has consulted to and/or submitted testimony for the Offices of the Attorneys General for the states of New York, Connecticut, Montana and Nevada in analogous matters. His testimony has been the basis for the certification of class in a variety of these matters. His testimony has been the basis for approval supporting settlement agreements in a variety of these and other pharmaceutical matters.

### **Specific Assignments**

1972-1975: In consultation with Arthur D. Little, Inc., Dr. Hartman developed economic impact models to assess the effects of environmental regulations upon the U.S. pollution abatement equipment industry and upon a particular U.S. copper smelting company.

1972-1975: In consultation with Arthur D. Little, Inc., Dr. Hartman developed economic models to assess the regional macroeconomic and industrial impacts of alternative strategies to promote tourism-related industries. The models were used in the United States by the states of Maryland and Maine and for the Philadelphia Bicentennial Commission. Internationally, the models were used by the Ministry of Planning of Mexico to assess the national and regional importance of tourism coming into Acapulco.

1976-1977: Consultation with Arthur D. Little, Inc. for the U.S. Environmental Protection Agency. The effort involved the design, estimation and implementation of an econometric simulation model that was used to assess the impact of pollution abatement legislation on the U.S. copper industry. The model was designed to incorporate engineering cost estimates attributable to the abatement legislation while accounting for the noncompetitive pricing behavior in the industry. The model was used to evaluate and revise proposed abatement legislation. This analysis was the basis for Dr. Hartman's Ph.D. dissertation and several of his publications.

1977-1982: Working as the testifying expert, Dr. Hartman analyzed the presence of a price-fixing conspiracy among the major U.S. copper producers during the 1970's. His testimony addressed issues of liability and developed a model of damages. See

Affidavit to United States District Court for the Southern District of New York, *J.N. Futia Co., Inc., Plaintiff, Against Phelps Dodge Corporation, et al., Defendants*, 78 Civ. 4547 (ADS), 1978.

Deposition for United States District Court, Southern District of New York for *Reading Industries, Inc., et al. (Plaintiffs) against Kennecott Copper Corporation, et al. (Defendants)*, 17 Civ. 1736 (MEL), 1982.

1979: Working for the California Energy Commission, Dr. Hartman developed and presented a Statement of Opinion and Critical Review of Selected Energy End-Use Models and Proposed Specifications for PG&E End-Use Modeling Efforts before the California Energy Commission Hearings on Utility Construction and Siting, November 26-30, 1979.

1984: Testifying expert for the class of all individuals who employed the services of members of Massachusetts Furniture and Piano Movers Association. The analysis developed an econometric model to assist in certifying the class and measuring the damages common to that class. See

Affidavit to United States District Court for the District of Massachusetts in the Matter of *Kenett Corporation et al v. Massachusetts Furniture and Piano Movers Association Inc. et al*, May 1984, Civil Action No. 82-140-Z.

1984-1986: In consultation with the U. S. Postal Service, Dr. Hartman identified appropriate econometric methods for analysis of the determinants of Postal Service costs. The particular methods he suggested were "hedonic" cost techniques, which are specifically designed to account for the fact that both increased levels of production and improved product attributes increase costs. The techniques assisted the Postal Service in quantification of the cost impacts of the attributes of service quality for alternative classes of service. For example, the techniques allowed for estimation of the differential cost impacts of alternative service priorities, size and weight attributes of the various classes of mail.

He later applied these techniques for a group of second class mailers. The analysis was introduced before the Postal Service Commission to assess whether proposed postal rate changes reflected actual costs.

1984-1986: The development of econometrically-based strategic planning models, which allow for estimation of the effects on corporate profits of alternative product design and pricing strategies. The models allow for examining specific design strategies by explicitly incorporating detailed product attributes. The models were developed for Westin Hotels and Shell Oil. The Westin models have been implemented into an interactive PC tool that facilitates pricing decisions at the front desk.

1985: For analysis presented before the International Trade Commission, Dr. Hartman helped develop and estimate a model to evaluate the domestic effects of importation of certain synthetic aramid fibers. The analysis was used in adjudicating an international patent infringement complaint.

1985-1986: Dr. Hartman participated in an analysis of one of the nation's largest mutual funds. The study was undertaken as part of a class action alleging inappropriate management fees. The study assessed competition in the money market mutual fund industry. It measured investors' sensitivity to changes in yield and to the level of services provided. It also statistically identified the determinants of the costs of providing mutual fund services.

1985-1986: The development for GTE Laboratories of econometric demand models for analysis and measurement of the determinants of demand for telecommunications services. The models explicitly address the separate customer decisions to subscribe to one of several telecommunications carriers and the demand for telecommunications services, conditional upon the subscription decision. The analysis was employed by GTE to assist their subsidiary, GTE Sprint, in the design of marketable services, where the services were differentiated by tariff, perceived service quality, provider reputation, and specialized customer services. The analysis is summarized in the paper

"Estimation of Household Preferences for Long Distance Telecommunications Carrier", *Journal of Regulatory Economics*, Volume 6, 1994.

1985-Present: Dr. Hartman has performed a variety of economic damage analyses in cases of personal injury, wrongful injury and wrongful death. He has worked for both plaintiff and defendant. He has been deposed in such matters as recently as 1995.

1986: For a major natural gas pipeline, preparation of an analysis of the effects of natural gas deregulation as proposed in the Federal Energy Regulatory Commission's Notice of Proposed Rulemaking No. 436.

1986-1987: Working for the class of owners of selected General Motors' X Cars and VW Rabbits, Dr. Hartman specified and estimated econometric models that assisted in the certification of class and estimation of class damages. The damages flowed directly from allegedly-concealed design flaws in these automobiles. The methods are described in

"The Use of Hedonic Analysis for Certification and Damage Calculations in Class Action Complaints," with M. Doane, *The Journal of Law, Economics and Organization*, Fall 1987.

1986-1987: Development of damage models for litigation in high technology industries. The models were developed in several cases. One involved alleged patent infringement by a major Japanese semiconductor firm, and the second involved market foreclosure of a domestic minicomputer emulator. In these efforts, Dr. Hartman developed econometric models to estimate the market potential, absent the violation, for the particular product foreclosed or whose patent was infringed. The methods are described generically in

"Product Emulation Strategies in the Presence of Reputation Effects and Network Externalities: Some Evidence from the Minicomputer Industry," with D. Teece, *Economics of Innovation and New Technology*, Volume 1, 1990.

1987: Analysis of the competitive effects of relaxing the restrictions on the Bell Regional Operating Companies regarding their vertical extension upstream into equipment manufacture and downstream into the provision of selected telecommunication services. The study was introduced before Judge Greene in the triennial review of the divestiture of the Bell operating companies from AT&T.

1987-1988: For a major gas utility, participation in analysis of the economic effects arising if bypass of an existing pipeline were allowed by state and federal regulation. The analysis developed methods for assessing when competitive bypass is socially desirable. The analysis also developed and used an econometric model to simulate the effects of bypass on demand and prices.

1988: Analysis of the competitive effects the acquisition of trade secrets through the predatory hiring of a competitor's essential labor force. See

Analysis submitted in testimony in the case *Universal Analytics Inc. v. MacNeil Schwendler, Corp.*

1988-1989: As part of their proposed acquisition of Public Service of New Hampshire, Dr. Hartman was retained by Northeast Utilities, Inc. to develop and estimate load forecasting models. The models were used to assess the demand implications of alternative rate assumptions proposed as part of the acquisition. The forecasts were introduced as part of Northeast Utilities' filings before the bankruptcy court, the state public utility commissions, the SEC and the FERC.

1989: As part of major antitrust litigation against the leading vendors of airline computer reservation systems, Dr. Hartman helped develop liability analysis and models for the estimation of damages.

1989: As a proposed testifying expert for Parnelli Jones, Inc., Dr. Hartman analyzed the antitrust implications of Firestone's retail trade practices, particularly alleged vertical and horizontal restraints of trade. He designed damage models for the alleged violations.

1989 - Present: Dr. Hartman has performed and continues to perform the market analyses required for Hart-Scott-Rodino applications and second requests supporting mergers and acquisitions in a variety of industries, including specialty chemicals, airlines, health care and medical diagnostic products, and energy products and services.

1989-1990: Dr. Hartman participated as a principal investigator and testifying expert for the Division of RatePayer Advocates of the California Public Utility Commission in an analysis of the economic and legal implications of the proposed merger between Southern California Edison Company and San Diego Gas and Electric Company. Dr. Hartman's responsibilities included overall study design, econometric analysis of scale and scope economies arising with the merger, and analysis of efficiencies purportedly arising with the coordination of the demand-side management programs of the two utilities. His direct and surrebuttal testimony is found in

California Public Utilities Commission, Division of Rate Payer Advocates, Report on the Proposed Merger of the Southern California Edison Company and the San Diego Gas and Electric Company,

Volume V, Chapter II, Application 88-12-035, February, 1990, Exhibit 10,500; and

California Public Utilities Commission, Division of Rate Payer Advocates, Report on the Proposed Merger of the Southern California Edison Company and the San Diego Gas and Electric Company, Surrebuttal: Econometric Analysis of Merger Impacts, Application 88-12-035, July, 1990, Exhibit 10,511.

1989-1990: Working with Arthur D. Little, Inc., Dr. Hartman participated as a principal investigator and testifying expert in a merger study for several small New England utilities within Nepool. Dr. Hartman designed and implemented a statistical study of returns to scale and scope in the industry. Using the statistical results, Dr. Hartman developed opinions regarding the efficiency effects of the proposed merger. His analysis appears as an independent Appendix to

Arthur D. Little, Inc., Evaluation of EUA's Proposed Acquisitions of UNITIL and Fitchburg, Report to Gaston and Snow, March 12, 1990, presented in support of the acquisition to the Securities and Exchange Commission and the New Hampshire Public Utilities Commission.

1990: Working for a group of commodity futures exchanges, Dr. Hartman participated as Principal Investigator in a critical review of a statistical and econometric study performed by the Commodity Futures Trading Commission. The CFTC study was developed to assess the effects of dual trading on commodity futures markets, in order to implement proposed regulations curtailing such trading.

1990: Working with Barakat and Chamberlin, Inc., Dr. Hartman developed a Ramsey pricing model for Arizona Public Service Corporation. The Ramsey pricing model was used to develop and explore alternative rate strategies for a variety of residential, commercial and industrial market segments. The analysis was submitted in formal rate hearings.

1990-1992: Working with the Technology Research Center of Arthur D. Little, Inc. for the United States Postal Service, Dr. Hartman specified and estimated econometric models to analyze the determinants of productivity for the largest 120 post offices in the United States. The econometric models are being used to identify the most and least productive offices, with the purpose of learning from the performance of the most productive offices in order to improve the performance of the least productive offices. The models are being used to design and implement incentive regulation mechanisms to increase productivity across post offices.

A second set of econometric models have been specified and estimated to quantify the effects of the attributes of alternative postal services and rate classes upon total postal service costs. The results of this analysis are being used to design postal rates for alternative classes of service which reflect the real costs of providing the services. The analysis and its results will be introduced into the postal rate hearings.

1990-1997: Working with the World Bank, Dr. Hartman has specified and is estimating a set of econometric models to measure both the level and types of pollutants emitted by United States plants and establishments and the costs of abating those pollutants. The models identify and quantify, at the plant level, the relationship between the emission of approximately 300 pollutants and the scale of production, the types of technology used, the age and characteristics of the plant and equipment used, the extent to which abatement equipment has been installed, and the costs (capital and operating) of abating alternative pollutants.

The models will be used in the following ways in developing countries and Eastern European countries: to assist the countries to predict and assess the environmental implications of reliance upon certain

technologies and industries in development; to assess the effectiveness of alternative regulatory methods for abating pollution, including effluent standards, effluent taxes, effluent licenses, technology standards, effluent banks, and alternative property right schemes; to implement incentive regulation mechanisms to better stimulate abatement compliance; and to identify and prioritize those industries that can abate certain pollutants at least cost.

As part of this effort, Dr. Hartman has also designed a specific incentive regulation system for pollution abatement compliance in Indonesia. The system is based upon the most recent theory in regulated incentive mechanisms. The system will ultimately evolve into an effluent bank or a system of effluent fees. If the effort is successful, it will form the basis for environmental institutions in other developing countries. In the process of designing this system, he has reviewed the institutional and statutory basis for environmental policy in Indonesia.

Also as part of this work, Dr. Hartman is in the process of designing the institutional and statutory structures for Environmental Protection Agencies in a variety of developing countries. The institutional structures will be designed to articulate and implement pollution abatement policies that are informed by the econometric modeling described above.

1991: Dr. Hartman participated as a principal investigator and testifying expert for the Missouri Public Service Commission in a critical analysis of the proposed merger between Kansas Power and Light Company and Kansas Gas and Electric Company. Dr. Hartman's responsibilities included overall study design, analysis of scale and scope economies arising with the merger, analysis of unanticipated transitional cost arising with the merger and an econometric event study of the stock market's response to the merger. His testimony appears in

A Critical Analysis of the Proposed Merger Between Kansas Power and Light Company and Kansas and Electric Company, Report to the Missouri Public Service Commission, March 25, 1991.

1991: Working for the Resolution Trust Corporation in its litigation against Michael Milken and Drexel Burnham Lambert Inc., Dr. Hartman developed data and econometric models to measure the size of the relevant antitrust markets dominated by Drexel and to estimate the size of the economic damages produced by Drexel's alleged monopolization of those markets.

1991-1992: Working for the Indonesian government and the United States Agency for International Development, Dr. Hartman critically reviewed the structure of the Indonesian electric power industry and the institutions regulating that industry. The purpose of the analysis was to assist the government with privatizing their energy industries. His analysis focused upon the following: developing better data and models for predicting demand and supply; identifying and implementing more efficient industrial structures; and developing better regulatory regimes.

1992: Working for the World Bank, Dr. Hartman designed methods to measure and compare the social value of the environmental effects of alternative development projects, at the microeconomic and macroeconomic levels. His analysis focused upon standard and contingent valuation survey approaches and their use in econometric settings.

1992-1993: Working for the World Bank in Bangkok, Dr. Hartman characterized and critically analyzed the environmental effects of Thailand's energy use patterns. He focused upon the use and production of electric power, petroleum, coal and natural gas. He developed recommendations for environmental policy changes that included, but were not limited to, fuel taxes, effluent standards, technology standards, and



privatization of environmental monitoring within a "bubble" policy approach.

1992-1993: Working for a biomedical company (a producer of vascular grafts) in an antitrust situation, Dr. Hartman designed and implemented survey techniques and econometric models to measure the size of the relevant markets and market power within those markets.

1992-1993: In a proceeding before the International Trade Commission, Dr. Hartman critiqued ITC econometric methods used for estimating elasticities of demand, supply and substitution among domestic and imported products. His focus was selected steel products. He formulated and estimated alternative models and methods to improve the existing estimates. He developed presentation materials for the Commission and testified before the Commission. His testimony is included in

LECG, Petitioners' Economic Testimony in the Matter of Certain Carbon Steel Flat Products, Final Hearing before the United States International Trade Commission, June 29-30, 1993; and

LECG, Petitioners' Post Hearing Brief in the Matter of Certain Carbon Steel Flat Products, before the United States International Trade Commission, July 7, 1993.

1992-1997: Working for the World Bank, Dr. Hartman has designed and is currently implementing a set of regional econometric/engineering models that accurately portray and predict the economic, environmental, infrastructural and socio-demographic effects of large-scale, World-Bank-funded infrastructural projects. The models combine input-output and econometric methods.

Given the Bank experience that many of their financially-sponsored projects create significant unanticipated environmental effects, the models are designed to be broad and comprehensive enough to incorporate and predict all important effects. The models systematically characterize the relationship between resource-based economic growth and the regional environment in which that growth occurs.

The models are currently being implemented for assessing project developments in the Carajas region of the Brazilian Amazonian rain forest, which is a large, dynamic and ecologically sensitive frontier area. The methods implemented for Brazil will be generalized for analysis of economic growth in ecologically similar areas, such as the Lake Baikal region of the former Soviet Union.

1993-1994: Working for the Commonwealth of the Northern Mariana Islands, Dr. Hartman developed and presented testimony rebutting a complaint by the United States Department of Justice that the Public School System of the Commonwealth practiced employment discrimination against teachers of Filipino and native Carolinian origin. Dr. Hartman's testimony examined both hiring and compensation practices. His testimony included hedonic regression analysis of the market for public school teachers in the islands. This analysis measured how teacher attributes and qualifications determined teacher salaries and hiring. The results of the analysis indicated that salary differentials resulted from differences in teacher qualifications rather than discrimination.

1993-Present: Working either as the testifying expert or supporting other testifying experts, Dr. Hartman has participated in a variety of patent infringement cases. He has developed, supported and estimated alternative theories and measures of damages for manufacturers of coaxial cable and a variety of alternative medical devices.

1993-1998: Working as the testifying expert, Dr. Hartman developed models estimating the damages to the business of a construction general contractor that were caused by the malicious prosecution of the contractor's



insurance company.

1994: Working for the United States Wheat Associates in a proceeding before the ITC, Dr. Hartman designed and implemented an econometric study to assess and quantify the extent to which Canadian Wheat Board imports into the U.S. undersold domestic supplies and thereby materially interfered with the United States Department of Agriculture Wheat Program. The econometric study was hedonic. The study measured how non-price attributes are valued in U.S. wheat markets. The non-price attributes analyzed included such things as protein content, shipment defects, moisture content and a number of end-use performance characteristics. Having measured the value of these attributes in U.S. markets, the analysis indicated how the Canadian Wheat Board fixed import prices below market levels, given the attributes of the imported wheat.

1994: Working as a testifying expert for Gallo Wines in a proceeding before the ITC, Dr. Hartman designed and implemented a statistical study of the US wine industry that analyzed the impacts of Chilean wine imports upon the domestic industry that would result from the inclusion of Chile in a Free Trade Agreement with the US.

1994: Working as a testifying expert for an insurer of a member of the Asbestos Claims Facility and Center for Claims Resolution, Dr. Hartman developed a statistical analysis estimating alternative indemnification liabilities expected under the Settlement Share Analysis of the Center for Claims Resolution and under the tort system. The results were used to make strategic decisions regarding the desirability of participating in the Class Action Settlement relative to litigating the claims.

1994: Working for several regional Bell Operating companies, Dr. Hartman has developed models and survey procedures to analyze and quantify the determinants of demand for local services, long-distance services and PCS services. The models quantify how consumers respond to and select among alternative carriers who differentiate their services by performance attributes and vendor reputation. The models also estimate the level of service demand, conditional upon the selection of service vendor. The models are being used to quantify the nature of competition among local carriers and long-distance carriers in the Intralata market. The models are also being used to help develop bidding strategies for specific RBOCs as they participate in the FCC auctions for the PCS spectra.

1995: Working as a testifying expert for a group of independent television stations and program producers, Dr. Hartman developed an econometric analysis of the impacts of the Prime Time Access Rule (PTAR) upon the economic performance of independent television stations. The analysis was submitted to the Federal Communications Commissions as part of their consideration of the repeal of the Rule. Dr. Hartman's analysis proved that PTAR had a strong, statistically significant effect upon the economic performance of these stations, and that its repeal would adversely impact them.

His testimony is included in

The Economic Effects of Repealing the Prime Time Access Rule: Impact on Broadcasting Markets and the Syndicated Program Market, Report prepared by LECG and presented before the Federal Communications Commission, MM Docket No. 94-123, March 7, 1995.

1995: Working for a big six accounting firm, Dr. Hartman designed and implemented a hedonic regression analysis to calculate transfer prices under the comparable uncontrolled price (CUP) method. The analysis is discussed in

"The Use of Regression Techniques in Transfer Price Analysis," with Delores Wright and J.D.

Opdyke, *European Taxation*, 1996.

1995-1996: Working as the testifying expert for a major high tech firm in New England, Dr. Hartman has developed rebuttal and affirmative testimony to rebut claims of age discrimination in the termination of a group of employees over forty. His rebuttal testimony involved critically reviewing statistical analyses purporting to demonstrate disparate treatment and disparate impact. His affirmative testimony has involved designing and implementing econometric models to identify and estimate those factors actually determining the compensation and termination decisions of the defendant.

1995-1996: Working as the testifying expert for the Office of Attorney General of the State of Massachusetts, Dr. Hartman has analyzed and helped develop the State's positions on the following issues: restructuring the electric utility industry in Massachusetts and New England; regulating those entities in the restructured industry that will remain subject to regulation; and valuing those assets that may be stranded as a result of restructuring. As part of the effort, Dr. Hartman also critically reviewed the restructuring proposals of the largest utilities in the state. His testimony appears in

"The Market for Power in New England: The Competitive Implications of Restructuring," a report prepared for the Office of the Attorney General, Commonwealth of Massachusetts and submitted February 16, 1996 in support of their filing to the Department of Public Utilities as part of DPU 95-30, which was initiated August 15, 1995.

1995-1996: Working as the testifying expert, Dr. Hartman represented Florida Power Corporation in a contract dispute with Independent Power Producers. His analysis and testimony focused upon issues of damages incurred as a result of a breach of contract.

1995-1999: Working with a team of economists, Dr. Hartman represented the group of wholesalers in the retail prescription drug price fixing conspiracy case. His efforts included industry analysis and participation in cross examination of plaintiffs' experts.

1996: Working as the testifying expert for the Division of Public Utilities of the State of Rhode Island, Dr. Hartman has analyzed and helped develop the State's positions on restructuring the electric utility industry in Rhode Island and New England, for both the State's Public Utilities Commission and the FERC. As part of the effort, Dr. Hartman also critically reviewed the restructuring proposals of some of the utilities in the state. His testimony appears in

"The Division Plan to Restructure the Electric Utility Industry in Rhode Island," Volume 2 of Supporting Testimony to the State of Rhode Island and Providence Plantations Public Utilities Commission, in re: Electric Industry Restructuring, Docket 2320, April 12, 1996.

1996: Working with a team of engineering firms, an international investment banking firm, a big six accounting firm and several national law firms, Dr. Hartman developed models of demand, supply and futures markets in restructured electric power markets to assist a major industry participant in evaluating specific alternative acquisition strategies.

1996: Working with a team of economists developing evidence for presentation before the High Court of New Zealand, Dr. Hartman critically reviewed and rebutted a variety of econometric analyses of natural gas markets and more broadly-defined energy markets in New Zealand. These analyses were used to determine the size of antitrust markets for a variety of energy products.

1996: Dr. Hartman was retained by a major mid-west utility to critically review and rebut analyses and evidence presented before the FERC and the relevant State Commissions concerning the competitive impacts of the proposed Primergy merger.

1996-2003: Working as the testifying expert, Dr. Hartman analyzed the employment practices and procedures of the Florida Power Corporation during a reduction in force, to assess the validity of a complaint that those practices and procedures resulted in a pattern of age discrimination. In his testimony, Dr. Hartman implemented a variety of statistical and econometric analyses to address and quantify claims of disparate impact and disparate treatment.

1996-1997: Working for US Airways with a team of economists, Dr. Hartman specified and estimated a variety of econometric consumer choice models to measure customer preferences for the services of alternative air carriers in a cross section of US-European origin-destination markets. The models were used to evaluate the economic impacts of both the proposed alliance between American Airlines and British Airways and alternative proposals to condition that alliance.

1996-1997: Working as the testifying expert, Dr. Hartman represented a major national retail pharmaceuticals wholesaler in litigation brought by a regional distributor alleging monopolization of wholesale services to distinct classes of trade. His analysis addressed market definition, the analysis of competition generally and analysis of the competitive impact of specific contractual arrangements.

1997: Working with a team of experts, Dr. Hartman analyzed economic impacts of the construction of the Warrior Run Cogeneration plant which was under construction in Western Maryland and was contracted to sell power to Allegheny Power System's (APS) Maryland subsidiary, Potomac Edison.

1997: Working as the testifying expert for the Office of Ratepayer Advocates of the California Public Utilities Commission, Dr. Hartman critically reviewed the efficiencies estimated by Applicants to be induced by the proposed merger of Pacific Enterprises and Enova Corporation.

1997: Working with a team of economists, Dr. Hartman prepared affirmative and rebuttal testimony in a breach of contract matter in the pharmaceutical industry arbitrated before the International Chamber of Commerce.

1997-2000: Working as the testifying expert, Dr. Hartman developed analysis supporting certification of class and estimation of damages for the class of purchasers of thermal fax paper in the US over the period 1990-1992 who were damaged as a result of a price fixing conspiracy by major suppliers.

1998: Working as the testifying expert, Dr. Hartman analyzed the employment practices, procedures and personnel data of the Florida Power Corporation, in general and in particular, to assess the validity of a complaint that a specific employee had been subjected to racial discrimination.

1998-1999: Working with a team of economists for the Office of the Attorney General of the State of Massachusetts, Dr. Hartman developed and implemented econometric models to analyze and measure the health care costs arising under the Medicaid program that have been attributable to smoking. The analysis appears in the following documents:

David M. Cutler, Arnold M. Epstein, Richard G. Frank, Raymond S. Hartman, Charles King and Joseph P. Newhouse, *The Impact of Smoking on Medicaid Spending in Massachusetts: 1970-1998 -- Report on Methods*, June 15, 1998;

David M. Cutler, *et. al.*, *The Impact of Smoking on Medicaid Spending in Massachusetts: 1970-1998 - Results From The Inclusive Approach for Adults*, July 1, 1998;

David M. Cutler, *et. al.*, *The Impact of Smoking on Medicaid Spending in Massachusetts: 1991-1998 - Results From The Disease-Specific Approach for Adults and Overall Summary*, July 11, 1998.

Drawing upon these efforts, Dr. Hartman worked with the same team of experts to analyze the economic impacts of the Master Settlement Agreement and to present their findings to the Tobacco Fee Arbitration Panel.

1999: Working as one of two testifying experts for the Office of the Attorney General of the Commonwealth of Massachusetts, Dr. Hartman critically analyzed potential rate increases relevant to Joint Petitions introduced by both Eastern Enterprises/Colonial Gas Company and Boston Edison/Commonwealth Energy Systems. His testimony appears as

Joint Testimony of Seabron Adamson and Raymond Hartman on Behalf of the Massachusetts Attorney General, in the matter of the Joint Petition of Eastern Enterprises and Colonial Gas Company For Approvals of Merger Pursuant to G.L. c. 164, §§ 96 and 94, DTE 98-128, March 26, 1999.

Joint Testimony of Seabron Adamson and Raymond Hartman on Behalf of the Massachusetts Attorney General, in the matter of the Joint Petition of Boston Edison Company, Cambridge Electric Light Company, Commonwealth Electric Company and Commonwealth Gas Company For Approval of Rate Plan Pursuant to G.L. c. 164, §§ 76 and 94, DTE 99-19, April 30, 1999.

1999-2000: Dr. Hartman was retained by a group of industrial purchasers of copper to develop and implement methods and models to assess liability and measure damages in the matter involving the manipulation of the spot and future prices of copper on the London Metals Exchange by Sumitomo Corporation and Yasuo Hamanaka over the period 1987-1996.

1999-Present: Dr. Hartman consulted with counsel and the testifying expert in the development of data and models needed to certify class and measure damages in a price fixing case involving the manufacturer (Mylan) of generic clorazepate and lorazepam.

1999-2001: Working as the testifying expert, Dr. Hartman analyzed liability arising from a variety of restrictive dealer arrangements implemented by Dentsply International Inc., a U.S. manufacturer of artificial teeth, to foreclose entry by rival manufacturers from the US dental-laboratory dealer network. Dr. Hartman developed and implemented methods to measure damages to the class of dental laboratories that purchased artificial teeth from Dentsply at prices above the competitive prices that would have obtained absent the restrictive dealer arrangements.

1999-2000: Working with a team of economists for the Federal Trade Commission, Dr. Hartman analyzed the pro-competitive and anti-competitive nature of settlement agreements between generic and pioneer drug manufacturers resolving patent infringement litigation arising from certification under Paragraph IV of the Hatch Waxman Act (Drug Price Competition and Patent Term Restoration Act). Particular settlements analyzed include the settlement between Abbott Laboratories and Geneva Pharmaceuticals regarding the drug Hytrin and the settlement between Hoechst Marion Roussel (Aventis) and Andrx Corporation regarding the drug Cardizem.

1999-2000: Working as the testifying expert for the class of purchasers of Nine West shoes, Dr. Hartman was asked to analyze liability and measure damages arising from an alleged conspiracy to raise and maintain

the prices of women's shoes manufactured by the Nine West Group Inc. and sold by a variety of general merchandise retailers through their upscale retail department stores. The defendants in the case included Nine West Group Inc., Federated Department Stores, Inc., Dayton Hudson Corporation, Lord and Taylor, Nordstrom, Inc., May Department Stores, Macy's, Bloomingdale's, Inc., and other general merchandise retailers.

2000: Working with the testifying expert, Dr. Hartman assisted in the analysis and estimation of economic damages to a Class defined as all smokers with 20-pack years each of whom contracted lung cancer which was substantially contributed to by cigarette smoking.

2000: Working with a team of economists, Dr. Hartman developed econometric models to analyze and measure the impacts of subject imports, non-subject imports and factor price changes upon the prices of structural steel beams during the period 1998-1999. The work was presented before the International Trade Commission.

2001: Working with a team of economists, Dr. Hartman developed econometric models to analyze and measure the impacts of subject imports, non-subject imports and factor price changes upon the prices of structural steel beams and during 2000. He also developed econometric models to analyze and measure the impacts of subject imports, non-subject imports and factor price changes upon the prices of cold rolled and hot rolled steel during the Period of Inquiry of 1997-1999. Both efforts were presented before the International Trade Commission.

2001-present: Working as the testifying expert, Dr. Hartman developed and submitted testimony in support of class certification of and the calculation of damages to the class of indirect purchasers of the anti-hypertensive drug, Hytrin, produced by Abbott Laboratories and the generic equivalent of Hytrin, generic terazosin hydrochloride, produced by Geneva Pharmaceuticals. The class alleges monopolization and violation of the Hatch Waxman Act (Drug Price Competition and Patent Term Restoration Act).

2001-Present: Working as consultant and testifying expert, Dr. Hartman has been retained by counsel to the classes of indirect or direct purchasers of a variety of branded pharmaceuticals (including but not limited to Augmentin, Bextra, Cipro (New York, California, U.S.), BuSpar, Celebrex, Vioxx, K-Dur, Taxol, Lupron, Relafen, Paxil, Neurontin, Remeron, Tamoxifen, Premarin, Wellbutrin and Zyprexa) to analyze and submit testimony dealing with class certification, liability, market definition, damage calculations and settlement allocations arising from violations of the Hatch Waxman Act (Drug Price Competition and Patent Term Restoration Act), related state-specific unfair competition statutes and the RICO Act.

Dr. Hartman's testimony in this area has been relied upon (and cited thereto) for certification of end-payer consumer classes in the following matters:

- *In re: Terazosin Hydrochloride Antitrust Litigation*, United States District Court, Southern District of Florida, Case No. 99-MDL-1317-Seitz/Klein [Order Granting Indirect Purchaser Plaintiffs' Motions for Class Certification of State-Wide Classes, April 8, 2004]
- *In re Cipro Cases I and II*, D043543 (JCCP Nos. 4154, 4220), Court of Appeal, Fourth Appellate District, Division One, State of California [Decision affirming class certification not titled but marked as "Not to Be Published in Official Reports," Filed 7/21/04]
- *In re: Relafen Antitrust Litigation*, United States District Court, District of

Massachusetts, Master File No. 01-12239-WGY [Memorandum granting certification for an exemplar class, May 12, 2004]

Dr. Hartman's testimony has been relied upon (and cited as necessary) for approval of proposed settlement allocations in the following matters:

- *In re: Lupron® Marketing and Sales Practices Litigation*, United States District Court, District of Massachusetts, MDL No. 1430, Master File No. 01-CV-10861-RGS [Memorandum and Order Approving Settlement and Certifying the Class, May 12, 2005]
- *HIP Health Plan of Florida, Inc., On Behalf of Itself and All Others Similarly Situated v. Bristol-Myers Squibb Co. and American Bioscience*, Case Number 1:01CV01295, United States District Court for the District of Columbia
- *In re Buspirone Antitrust Litigation*, MDL No. 1413, United States District Court for the Southern District of New York
- *In re Relafen Antitrust Litigation*, United States District Court, District of Massachusetts, Master File No. 01-CV-12222-WGY
- *In re Remeron Antitrust Litigation*, United States District Court, District of New Jersey, Master Docket No. 02-CV-2007

2001: Working as consultant to counsel for various U.S. steel producers, Dr. Hartman worked with a team of economists to develop econometric models to analyze and measure the impacts of imports, demand and factor price changes upon the prices of domestically produced carbon steel flat products and carbon steel long products in the Section 201 hearings before the International Trade Commission. Dr. Hartman testified before the ITC in the hearings. The Commission decided in favor of most of the products subject to these analyses.

2001: Working as consultant to counsel for Nucor Steel Corporation, Dr. Hartman worked with a team of economists to develop econometric models to analyze and measure the impacts of imports, demand and factor price changes upon the prices of domestically produced carbon steel cold rolled products for preliminary hearings before the International Trade Commission.

2001-2002: Consulting to counsel for the Plaintiff Class, Dr. Hartman analyzed the targeting of youth by cigarette advertisements in the matter *in re Devin Daniels, et. al., v. Philip Morris Companies, Inc., et. al.*, Case Number 719446, coordinated with JCCP 4042.

2001-2003: Working as testifying expert, Dr. Hartman developed and presented statistical evidence analyzing the relative performance of a particular cardiovascular surgeon litigating the fact that his surgical privileges had been revoked as a result of incompetent surgical performance and results. He testified before an arbitration panel in the matter.

2003: Working as the testifying expert for Defendants, Dr. Hartman submitted testimony analyzing the allegation of racial discrimination on the part of Wells Fargo Home Mortgage, Inc. and Norwest Mortgage, Inc.

2003: Working as a consulting expert to counsel for the class of purchasers of graphite electrodes, Dr. Hartman developed econometric models to assess the impact of alleged antitrust violations.



2003: Working as a consulting expert for counsel to the class of direct purchasers, Dr. Hartman reviewed materials in a matter regarding antitrust allegations concerning the manufacture and sale of microcrystalline cellulose in the United States.

2003: Working as a consulting expert to counsel for a large electrical generation company, Dr. Hartman developed economic and econometric models to analyze the allegation that this electrical generation company participated in a conspiracy to manipulate prices of power sold in California.

2003: Working as the testifying expert, Dr. Hartman submitted testimony which analyzed and calculated the economic impacts and damages to the U.S. growers and quota holders of flue-cured and burley tobacco leaf caused by a price-fixing conspiracy among the major U.S. tobacco leaf buyers and cigarette manufacturers.

2004: Working as the consulting expert for the United States Department of Justice, Dr. Hartman critically analyzed the calculation of the economic damages borne by an electric power generation utility as a result of the breach of the Standard Contract with the U.S. Department of Energy to remove spent nuclear fuel in 1998. Dr. Hartman's analysis included a critical review and rebuttal of the models and data put forward by the utility's experts in the calculation of damages; the development and presentation of alternative and improved models and corrected data to more accurately calculate damages; a critical review of econometric analyses put forward by one of the utility's experts; and a review of the economics of re-licensing existing nuclear generating facilities.

2004: Working as the testifying expert, Dr. Hartman submitted testimony in support of the certification of the class of purchasers of electrical carbon products who have been alleged to have been impacted and injured economically as a result of a price-fixing customer-allocation conspiracy of the major suppliers of such products in the United States.

2004-Present: Working as the testifying expert, Dr. Hartman submitted testimony in support of the certification of the class of end payer purchasers of those pharmaceutical products produced by AstraZeneca, the Bristol Myers Squibb Group, the Johnson and Johnson Group, the Glaxo-Smith-Kline Group and the Schering Plough Group that were subject to an alleged scheme to fraudulently inflate their Average Wholesale Price (AWP), thereby fraudulently inflating the reimbursement rates paid by the Class members for those pharmaceuticals when their reimbursement rates were formulaically related to the AWP. Dr. Hartman is consulting on related litigation undertaken by the Offices of the Attorneys General for the States of New York, Connecticut, Arizona, Nevada, Montana and Pennsylvania. He has also submitted testimony establishing liability and calculating damages for those Classes certified by the MDL Court and those States seeking remedy. 2004-2005: Working as a consulting expert to counsel for a major electricity and gas utility holding company, Dr. Hartman developed models to evaluate allegations of affiliate abuse by the regulated gas distribution entities and the trading entities of the holding company. The alleged abuses concerned spot and forward gas markets in California.

2005: Working as the testifying expert for the United States Department of Justice, Dr. Hartman developed models to critically analyze the cost submissions to the U.S. Court of Federal Claims by the TVA for monetary damages alleged to have resulted from partial breach by the U.S. Department of Energy of the Standard Contract to remove spent nuclear fuel from TVA beginning in 2002. Dr. Hartman's analysis included a critical review and rebuttal of the models, data and cost analyses put forward by the utility and the development and implementation of alternative and improved models and corrected data to more accurately calculate costs attributable to the alleged partial breach.



2005-2007: Working again as the testifying expert for the United States Department of Justice, Dr. Hartman developed models to critically analyze the cost submissions to the U.S. Court of Federal Claims by the Systems Fuel Inc., a subsidiary of Entergy, for monetary damages alleged to have resulted from partial breach by the U.S. Department of Energy of the Standard Contract to remove spent nuclear fuel from SFI facilities in Mississippi and Arkansas. Dr. Hartman's analysis has included a critical review and rebuttal of the SFI models, data and cost analyses put forward by the utilities and the development and implementation of alternative and improved models and corrected data to more accurately calculate costs attributable to the alleged partial breach.

**ATTACHMENT A.2**

**SELECTED TESTIMONY OF RAYMOND HARTMAN  
AT DEPOSITION, HEARING OR TRIAL**

**2003**

*In re Terazosin Hydrochloride Antitrust Litigation*, Case No. 99-MDL-1317 Seitz/Garber, consolidated, United States District Court for the Southern District of Florida, (deposition on rebuttal testimony on damage analysis)

*Anne Cunningham and Norman Mermelstein, Individually and on Behalf of all Others Similarly Situated, v. Bayer AG, Bayer Corporation, Barr Laboratories, Inc, The Rugby Group, Inc., Watson Pharmaceuticals, Inc. and Hoechst Marion Roussel, Inc.*, Index No. 603820-00, Supreme Court of the State of New York, County of New York (deposition on rebuttal testimony in support of class certification)

*In re Ciprofloxacin Hydrochloride Antitrust Litigation*, Master File No. 1:00-MD-1383, United States District Court for the Eastern District of New York. (deposition on rebuttal testimony in support of class certification)

*Cipro Cases I and II*, Judicial Council Coordination Proceeding Nos. 4154 and 4220 (Superior Court, San Diego County) (depositions on affirmative and rebuttal testimony in support of class certification)

*In re Relafen Antitrust Litigation*, United States District Court, District of Massachusetts, Master File No. 01-CV-12222-WGY (depositions on affirmative and rebuttal testimony on class certification and affirmative testimony on damages)

*Dr. Gregory Derderian, et. al., Plaintiffs, v Genesys Health Care Systems, et. al., Defendants*, Case No. 99-64922-CK, State of Michigan, Circuit Court for the County of Genesee (testimony before arbitration panel)

*In re D. Lamar DeLoach, et. al., Plaintiffs, v. Philip Morris Companies, Inc., et. al., Defendants*, in the United States District Court for the Middle District of North Carolina, Greensboro Division, Case No. 00-CV-1235 (depositions on affirmative and rebuttal testimony calculating damages)

**2004**

*In re Ciprofloxacin Hydrochloride Antitrust Litigation*, Master File No. 1:00-MD-1383, United States District Court for the Eastern District of New York (depositions on affirmative and rebuttal testimony calculating damages and affirmative and rebuttal testimony analyzing liability and market definition)

*In re Lupron Marketing and Sales Practices Litigation*, MDL No. 1430, CA No. 01-CV-10861, United States District Court, District of Massachusetts (deposition on affirmative testimony in support of class certification)

*In re Pharmaceutical Industry Average Wholesale Price Litigation*, United States District Court for the District of Massachusetts, MDL, No. 1456, CIVIL ACTION: 01-CV-12257-PBS (deposition on affirmative testimony in support of class certification)

**2005**

*In re Lupron Marketing and Sales Practices Litigation*, MDL No. 1430, CA No. 01-CV-10861, United States District Court, District of Massachusetts, (submission of written testimony at trial)

*In re Tennessee Valley Authority, Plaintiff v. United States, Defendant*, United States Court of Federal Claims, No. 01-249-C, (deposition and appearance trial)

*Lynne A. Carnegie v. Household International, Inc., Household Bank, f.s.b., successor in interest to Beneficial National Bank, Household Tax Masters Inc., formerly known as Beneficial Tax Masters, Inc., Beneficial Franchise Company, Inc., H&R Block, Inc., H&R Block Services, Inc., H&R Block Tax Services, Inc., H&R Block Eastern Tax Services, Inc., Block Financial Corp. and HRB Royalty, Inc.*, No. 98 C 2178, United States District Court for the Northern District of Illinois Eastern Division, (submission of written testimony and deposition in calculation of damages)

**2006**

*In re Pharmaceutical Industry Average Wholesale Price Litigation*, United States District Court for the District of Massachusetts, MDL, No. 1456, CIVIL ACTION: 01-CV-12257-PBS (deposition testimony in calculation of damages in the MDL matter; submission of written testimony and deposition testimony in the calculation of damages and penalties for the State of Montana and the State of Nevada; submission of written testimony on summary judgment; submission of written testimony in support of class certification in re Track 2 defendants; appearance at Track 1 trial)

*State of Connecticut v. Dey, Inc., Roxanne Laboratories, Inc., Warrick Pharmaceuticals Corp., Schering-Plough Corp. and Schering Corporation; State of Connecticut v. Pharmacia Corp., and State of Connecticut v. Glaxo Smithkline et al.*, Superior Court, Complex Litigation Docket at Tolland, Docket Nos. X07 CV-03-0083297-S, X07 CV-03-0083298-S, X07 CV-03-0083299-S (deposition on affirmative testimony on liability and the calculation of damages).

*System Fuels, Inc., on its own behalf and as agent for System Energy Resources, Inc. and South Mississippi Electric Power Association, Plaintiff, v. The United States, Defendant*, in the United States Court of Federal Claims, No. 03-2624C (deposition)

*New England Carpenters Health Benefits Fund; Pirelli Armstrong Retiree Medical Benefits Trust; Teamsters Health & Welfare Fund of Philadelphia and Vicinity; and Philadelphia Federation of Teachers Health and Welfare Fund v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS (deposition)

*In re Express Scripts, Inc., PBM Litigation*, United States District Court Eastern District of Missouri Eastern Division, Master Case No. 4:05-md-01672-SNL (deposition on affirmative testimony in support of class certification).

*In re Prempro Products Liability Litigation*, in the United States District Court for the Eastern District of Arkansas, Western Division, MDL Docket # 4:03CV1507WRW; *In re Hormone Therapy Litigation*, in the Court of Common Pleas Philadelphia County, November 2003, #00001 (deposition)

*In re: Neurontin Marketing and Sales Practices Litigation*, MDL Docket No. 1629, Master File No. 04-10981, United States District Court, District of Massachusetts (deposition).

*System Fuels, Inc., on its own behalf and as agent for Entergy Arkansas Inc., Plaintiff, v. The United States, Defendant*, in the United States Court of Federal Claims, No. 2623C (deposition).

**2007**

*System Fuels, Inc., on its own behalf and as agent for System Energy Resources, Inc. and South Mississippi Electric Power Association, Plaintiff, v. The United States, Defendant*, in the United States Court of Federal Claims, No. 03-2624C (trial).

**ATTACHMENT B**

## Attachment B: Documents Cited

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Memorandum and Order, New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc., and McKesson Corporation, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS, August 27, 2007.

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**ATTACHMENT C.I**

**DECEMBER 2006 UPDATED DECLARATION ON CLASS CERTIFICATION**

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

NEW ENGLAND CARPENTERS  
HEALTH BENEFITS FUND; PIRELLI  
ARMSTRONG RETIREE  
MEDICAL BENEFITS TRUST;  
TEAMSTERS HEALTH & WELFARE  
FUND OF PHILADELPHIA AND  
VICINITY; and PHILADELPHIA  
FEDERATION OF TEACHERS HEALTH  
AND WELFARE FUND; DISTRICT  
COUNCIL 37, AFSCME-HEALTH &  
SECURITY PLAN; JUNE SWAN;  
MAUREEN COWIE and BERNDARD  
GORTER,

Plaintiffs,

v.

FIRST DATABANK, INC., a Missouri  
Corporation; and McKESSON  
CORPORATION, a Delaware Corporation,

Defendants

Civil Action No. 1:05-CV-11148-PBS

**UPDATED DECLARATION OF RAYMOND S. HARTMAN  
IN SUPPORT OF PLAINTIFFS' MOTION FOR CLASS CERTIFICATION**

## **Executive Summary**

I have analyzed whether the members of the proposed Class of payors identified in the Plaintiffs' Complaint have been impacted, injured and damaged economically as a Class as a result of the alleged Five Percent Spread Scheme. I conclude that they were for the following reasons. The drugs subject to my analysis, branded self-administered drugs, relied upon the First DataBank (FDB) AWP as the benchmark for reimbursement. Assuming the allegations are true, Defendants McKesson and FDB inflated the AWP-WAC spread from 20% to 25% on all marked up drugs beginning in late 2001. While the determinants of the WAC reported to FDB did not change for the marked up drugs during this period, the related AWP increased by five percentage points of WAC. As a result, the costs at which providers (the retail pharmacy channel) obtained the drugs (WAC) were unchanged while the basis for reimbursement (AWP) by the Payor Class was increased relative to that provider acquisition cost. Since the Class includes all those and only those payors whose reimbursement rates were determined by the AWP of the marked up drugs and since the Scheme increased those AWP, the reimbursement rates on all transactions subject to the Class definition were inflated relative to the cost at which providers acquired those drugs. This five percent inflation is the basis for causation, injury and damages on a class-wide basis.

I have analyzed whether there exist standard formulaic methodologies to demonstrate the existence of and measure the extent of class-wide injury and damages. I conclude and demonstrate that such formulaic methodologies do exist; the methodologies make use of standard economic analysis and existing data sources. I demonstrate that the measure of damages is directly related to the reimbursement rates paid by Class members that were increased by the 5% inflation of the AWP. Based on the number of drugs involved in the Scheme, I conclude that damages are substantial.

This Declaration proceeds as follows. In Section I, I present my qualifications. In Section II, I identify the Class and review the allegations. I conclude that, if the allegations are proven true, the Class suffered Class-wide injury, the Class was damaged economically in the form of overcharges for drug reimbursements and those damages can be calculated on an aggregate Class-wide basis. In Section III, I present in detail the formulaic methodology that I will use to calculate Class-wide damages.

### **I. Qualifications**

1. My name is Raymond S. Hartman. I am Director and President of Greylock McKinnon Associates (GMA), an economic consulting and litigation support firm located in Cambridge, Massachusetts.

2. As I have discussed in prior testimony before this Court, I am an economist specializing in microeconomics, econometrics and the study of industrial organization. I have taught economics, conducted economic research and provided economic consulting in my areas of specialization for thirty years. I taught economics as an Assistant Professor and Associate Professor within the Department of Economics at Boston University over the period 1977-1988. I taught economics as a Visiting Associate

Professor and member of the Visiting Faculty at the School of Law, Boalt Hall, University of California at Berkeley over the period 1988-1993. I was a member of the research faculty at MIT over the period 1977-1982. Over the entire period since 1971, I have consulted to federal and state governmental bodies, private corporations, law firms, consulting companies, research organizations and international lending organizations. I have been a research referee for a variety of academic journals. I am the author of more than 100 refereed journal articles, book chapters and research/consulting reports.

3. I have submitted oral and written testimony before federal and state courts of law and regulatory commissions. My testimony as an expert witness has addressed anticompetitive behavior, merger efficiencies, breach of contract, employment discrimination, patent infringement, class certification and the estimation of damages in a variety of markets and industries including, but not limited to, the pharmaceutical industry, the health care services industry, the electric power industry, the banking industry, the copper industry, the defense industry, the cable TV industry, the tobacco industry, the electrical and mechanical carbon products industry, the medical devices industry and the construction industry. I have consulted in litigation involving a broader array of markets and industries.

4. I received a bachelor's degree in economics (*magna cum laude*) from Princeton University in 1969. I received a master's degree in economics from MIT in 1971 and a Ph.D. in economics from MIT in 1977. My Curriculum Vita is attached to provide specific and recent biographical and professional information (see Attachment A.1). Attachment A.2 identifies my recent testimony at deposition and trial. In this matter, Greylock McKinnon Associates is being compensated for my time at the rate of \$450.00 per hour.

## II. Purpose, Overview and Summary of My Analysis

### A. The Scope and Purpose of My Retention

5. I have been retained by Counsel to the named Plaintiffs and the Class in this matter.<sup>1</sup> The Class (named the *AWP McKesson/First Data Class*) consists of

**“Consumer purchasers:**

All individual persons who paid, or incurred a debt enforceable at the time of judgment in this case to pay, a percentage co-payment for the Marked Up Drugs during the Class Period pursuant to a plan, which in turn reimbursed the cost of brand-name pharmaceutical drugs based on AWP. The Marked Up Drugs are

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<sup>1</sup> *New England Carpenters Health Benefits Fund; Pirelli Armstrong Retiree Medical Benefits Trust; Teamsters Health & Welfare Fund of Philadelphia and Vicinity; and Philadelphia Federation of Teachers Health and Welfare Fund, District Council 37, AFSCME - Health & Security Plan; June Swan; Maureen Cowie And Bernard Gorter v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS.

all drugs identified in Exhibit A to the Second Amended Complaint and consist of certain brand-name drugs only.<sup>2</sup>

**Third-party Payors:**

All third party payors whose pharmaceutical payments for the Marked Up Drugs were based on AWP during the Class Period. The Marked Up Drugs are all drugs identified in Exhibit A and consist of brand-name drugs only.<sup>3</sup>

Excluded from the above-listed Classes are: (a) each defendant and any entity in which any defendant has a controlling interest, and their legal representatives, officers, directors, assignees and successors; (b) any co-conspirators; and (c) any governmental entities who purchased such drugs during the Class Period.

The Class Period is August 1, 2001 to March 15, 2005, when First Data disclosed that it had stopped surveying wholesalers.”

Excluded from the Class are: (a) each defendant and any entity in which any defendant has a controlling interest, and their legal representatives, officers, directors, assignees and successors; (b) any co-conspirators; and (c) any governmental entities who purchased such drugs during the Class Period. The Class Period is August 1, 2001 to March 15, 2005, when First Data disclosed that it had stopped surveying wholesalers.”<sup>4</sup>

6. I have been asked by Counsel to evaluate the effects Defendants’ activities (if proven as alleged in the *Complaint*) had on the members of the Class. I have been asked to analyze whether causation, liability and injury can be proven on a class-wide basis. I have been asked to evaluate whether aggregate injury to the Class can be measured and to identify possible formulaic methods for that measurement.

Since discovery and my analysis and calculations are ongoing, I reserve the right to supplement the opinions put forward in this Declaration as I receive additional data and information. In rendering my determinations, I have relied upon the materials

<sup>2</sup> Plaintiffs reserve the right to modify the Class Definition based on class related discovery and/or merits discovery.

<sup>3</sup> Plaintiffs reserve the right to modify the Class Definition based on class related discovery and/or merits discovery.

<sup>4</sup> Second Amended Class Action Complaint, *New England Carpenters Health Benefits Fund, et al. v. First DataBank, et al.*, October 31, 2006 (hereafter *Complaint*), ¶¶ 153 & 154. The exact dates for the Class Period may be refined based upon discovery. The drugs subject to this *Complaint* are presented in Exhibit A to the *Complaint*; Plaintiffs reserve the right to modify the number of drugs and the Class Definition based upon class-related discovery and/or merits discovery.

I have been advised by Counsel that the Class definition may be expanded to include AWP’s published by either First DataBank (FDB) or MediSpan. This change in class definition would not alter my proposed methodologies or the conclusions I present in this Declaration. For purposes of this Declaration, any reference to AWP’s published by FDB should be assumed to include those related AWP’s published by MediSpan, if the Class definition is expanded in this fashion.



identified in Attachment B of this report. The materials relied upon are the types of materials reasonably relied upon by experts in my field in forming opinions and drawing inferences on a subject.

## **B. The Allegations**

7. The allegations in this matter are straightforward and simply framed. Defendants McKesson Corporation (McKesson) and First DataBank (FDB) are alleged to have recognized and wrongfully exploited the relationship between *the two most important list prices* in pharmaceutical markets – the AWP and the WAC. These list prices are the bases for most transaction prices in this market.

8. As recognized by this Court, the AWP has been and continues to be an important basis for drug reimbursement in this market.<sup>5</sup> For branded self-administered drugs, which are the only drugs included in the proposed class, the AWP is **the** basis for reimbursement. By definition, the Class will therefore include those branded self-administered drugs for which the reimbursement rate was determined by reference to the AWP published by FDB.

9. For the drugs subject to the Class definition, the AWP determines the amount paid to providers (retail pharmacies and other retailers) and the related WAC determines the cost of the pharmaceutical goods sold by those providers. The spread between AWP and WAC (or AWP – WAC) determines the profitability to retailers of providing specific drug products.<sup>6</sup> Changes in the spread will change retailer profitability, everything else equal. Increases in the spread will increase retailer profitability.

10. The AWP and WAC therefore are important market signals for innovator drug companies. Drug manufacturers analyze and identify the AWP, WAC and the related spread (AWP – WAC) deemed optimal for their drug products. Those AWP, WACs and/or spreads are reported to the three market price compendia (FDB, MediSpan and

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<sup>5</sup> In her Memorandum and Order re: Motion for Class Certification (hereafter *Memorandum and Order*), *In re: Pharmaceutical Industry Average Wholesale Price Litigation*, United States District Court District of Massachusetts, MDL No. 1456, Civil Action No. 01-12257, August 16, 2005, Judge Saris states (at p. 7), “Throughout the class period, from 1991 to the present, AWP has been the pricing benchmark for most pharmaceutical sales in the United States. (Hartman Decl. Attach. D ¶¶ 29-30; Schondelmeyer ¶ 36.)” In forming her opinion, Judge Saris relied upon Professor Ernst Berndt, who noted in his February 9, 2005 Report: “AWP has served as a reference or focal point, an industry standard for baseline reimbursement, and as such a fictional benchmark price from which discounts are frequently specified, directly or indirectly” (¶ 16); and “Recall that pharmacies are typically reimbursed by health plans/insurers/PBMs for drugs they dispense on the basis of a relatively simple formula, such as AWP - X% plus dispensing fee plus (occasionally) administrative fees. ... [A]lmost all single source brand drugs are contractually reimbursed using AWP” (at ¶¶ 49 & 55). Ernst R. Berndt, Report of Independent Expert Professor Ernst R. Berndt to Judge Patti B. Saris, *In Re Pharmaceutical Industry Average Wholesale Price Litigation*, MDL No. 1456, Civil Action No. 01-12257-PBS, February 9, 2005 (hereafter “Berndt Report”).

<sup>6</sup> Note that the designation “*Spread*” in this matter refers to the difference between the two manufacturer list prices, AWP and WAC. This meaning differs from that used in the MDL AWP litigation, where the designation “*Spread*” refers to the difference between AWP and ASP. Both differences are spreads; their definitions are adapted to and appropriate for the allegations at issue.

RedBook). Historically, manufacturers have been characterized as having specific AWP –WAC spreads (20%, 25%, other).

11. Defendants McKesson and FDB are alleged to have conspired to wrongfully increase the spread between the AWP and WACs reported by FDB for certain drug products from 20% to 25%. This alleged act has been called by Plaintiffs the “Five Percent Spread Scheme” or simply the “Scheme,” and the drugs impacted by the Scheme will be referred to as the marked up drugs.<sup>7</sup>

### **C. The Effects of the Alleged Scheme**

12. If the allegations put forward in the *Complaint* are true, as a matter of basic economics and the business practices of pharmaceutical markets, the following economic events and results occurred:

- a) Those AWP reported by FDB, which were related to their WACs by a spread of 20% prior to the implementation of the Scheme, were increased relative to their WACs by 5 percentage points to a spread of 25% as a result of the Scheme.
- b) Where reimbursement rates (allowed amount or AA) paid by Class members were determined formulaically by AWP as  $AA = \{\text{“AWP less x\%” plus a dispensing fee}\}$ , the reimbursement rates were increased for those drugs, relative to the acquisition costs of the providers (which continued to be related to the WACs).
- c) The amounts paid by all or substantially all Class members for the relevant pharmaceuticals were inflated.<sup>8</sup>

### **D. The Impact of the Alleged Scheme Can and Should be Analyzed on a Class-wide Basis**

13. Assuming the allegations of the *Complaint* are proven true and focusing upon the brand-name self-administered drugs identified in Appendix A,<sup>9</sup> I conclude the following.

- a) In late 2001 or early 2002, Defendants conspired to alter the historical relationship between the two most important list prices used by innovator drug

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<sup>7</sup> *Complaint*, ¶ 10.

<sup>8</sup> As stated in ¶¶ 109 and 110 of the *Complaint*,

“... one manufacturer has stated, that ‘the AWP-WAC spread is the primary determinant of the end retail pricing of prescription drugs. As a result, changes in the spread will have a direct impact on retailer profitability as well as drug expenses for not only consumers but even more uniformly for health insurers and other third party payors.’”

“Another industry insider stated: Payors currently use AWP or average wholesale price as a basis for reimbursing retail pharmacy for providing RX’s to patients with insurance and by retail pharmacy as a basis for pricing cash prescriptions. Pharmacy reimbursement – a higher spread translates into higher reimbursement to retailers and mail order pharmacies. The usual reimbursement formula for private third party Medicaid RX’s in [*sic* – is] anchored off of AWP – so a higher markup will increase the reimbursement level at least in the short term.”

<sup>9</sup> The drugs listed in Appendix A to the *Complaint* are limited to brand-name self-administered drugs.

- manufacturers. Specifically, they conspired to raise “the WAC-to-AWP spread to 25% for over four hundred brand-name drugs that previously had received only the 20% markup amount.” They effectuated the Scheme over the period 2002-2003. Once effectuated, the 25% spread has remained in place to this day.<sup>10</sup>
- b) The determinants of WAC are not alleged to have been altered by the conspiracy.<sup>11</sup> Hence, the costs at which providers (the retail pharmacy channel<sup>12</sup>) obtained the drugs were unchanged by the alleged conspiracy. However, relative to the provider acquisition cost, the AWP was increased.
14. The impact of the Scheme was Class-wide and uniform.
- a) Since its merger with MediSpan and certainly since August 2001, FDB was *the single source* (according to the FTC, “a monopolist”) for comprehensive, electronic integrateable drug price information for the pharmaceutical industry. FDB could use its position as a monopolist to raise the spread between AWP and WAC.<sup>13</sup>
  - b) Because FDB was the single source of comprehensive, electronic integrateable drug price information, it was the source of AWP information for all or substantially all major market intermediaries (e.g., PBMs), retail providers and institutional payors (e.g., insurers) serving the Class.
  - c) Since the Class includes all those and only those payors whose reimbursement rates were determined by AWP and since the Scheme increased those AWP, the reimbursement rates on all transactions subject to the Class definition were inflated.
  - d) The impact was uniform across Class members: ***the AWP were increased.*** Those AWP were incorporated into the calculation of reimbursement rates for all Class members. AWP for the marked up drugs are published industry-wide and

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<sup>10</sup> *Complaint*, ¶¶ 8-11.

<sup>11</sup> The WAC is also known as the Direct Price (DP), catalog price, wholesale net price or book price; see *Complaint*, ¶ 37.

<sup>12</sup> See ¶¶ 54-58 of the *Complaint*.

<sup>13</sup> FDB’s market power allowed it to raise price; see ¶¶ 37-38 of the Federal Trade Commission Complaint (Complaint for Permanent Injunction and Other Equitable Relief Pursuant to Section 7A(g)(2) of the Clayton Act and Section 13(b) of the Federal Trade Commission Act, *Federal Trade Commission v. The Hearst Trust, The Hearst Corporation and First Databank, Inc.*, United States District Court for the District of Columbia, Civ. No. 1:01CV00734) (hereafter *FTC Complaint*) discussed below in the text at ¶ 17. Its market power allowed it to impose the alleged Scheme upon manufacturers; see ¶ 145 of the *Complaint*, which states “in 2003 one manufacturer indicated that it would ‘no longer report average wholesale prices (AWP) for its products [because of the Scheme]’, First Data reported to McKesson that this manufacturer appeared ‘to be playing hard ball and [First Data] just won’t play.’ First Data indicated that it would, then, ‘just assume the markup is 1.25.’ In this situation, when the manufacturer wanted to be assured that any disclosure of an AWP associated with its product was a price that ‘has not been authorized’ by it, First Data wrote back stating: ‘Wonderful. If we don’t report an AWP, the NDC will not be listed. It is the rules of the database. That database does not allow for statements such as your attorneys wrote below.’”

do not vary across segments of the industry. As a result, individual issues concerning variation in the information content of FDB's AWP's for particular drugs do not arise.

15. Class-wide analysis is feasible and the most effective way of demonstrating impact, corroborating liability and measuring damages.

- a) The impact of the Scheme upon Class members was increased reimbursement rates. For a given drug and payor, retailers or PBMs billed or charged Class members at  $(AWP - x\% + df)$ , where  $x$  is the percentage off AWP and  $df$  is the dispensing fee. While  $x\%$  and  $df$  may vary somewhat among Class members, the fact that AWP was inflated implied that the reimbursement rate or amount allowed (AA) was higher than it would have been absent the Scheme for all Class transactions.
- b) Existing data sources and analytic methods can be used to identify the fact that Defendants' conduct and conspiracy led to economic impact to the Class.
  - The results of a preliminary review of FDB's list prices (AWPs and WACs) have already been described in the *Complaint*, in aggregate and for specific drugs and drug manufacturers.<sup>14</sup> The resulting increases in the spreads have been documented in aggregate.<sup>15</sup> I reproduce that analysis for the single-source self-administered drugs at issue in this matter in Figure 1 below.
  - This increase can be documented for all relevant drugs (by NDC) using readily available FDB data. Indeed, I have already analyzed much of the necessary FDB data.
  - The observed clustering of spread increases during 2001-2002 is consistent with and supportive of the allegations of conspiracy in this matter. It is unlikely that it reflects the aggregate decisions of independent innovator drug companies, many of which were therapeutic competitors and some of which resisted retailer pressures to increase the spread.<sup>16</sup>
- c) Existing data sources and analytic methods can be used to measure the degree to which Defendants' conduct and conspiracy led to Class-wide aggregate economic injury.
  - FDB data provides the AWP's of all brand-name drugs subject to the Scheme. Once the date at which the Scheme inflated the AWP's of specific drugs (by NDC) is determined, aggregate impact can be calculated.
  - Denoting the average reimbursement rate for a given NDC in a given period as  $AA = \{AWP - x\% + df\} = (100\% - x\%)AWP + df$ , and denoting the increase in the AWP as  $\Delta AWP$ , the increase in the reimbursement rate is  $\Delta AA = (100\% - x\%) \Delta AWP$ .

<sup>14</sup> See *Complaint*, ¶¶ 10, 17, 129-131.

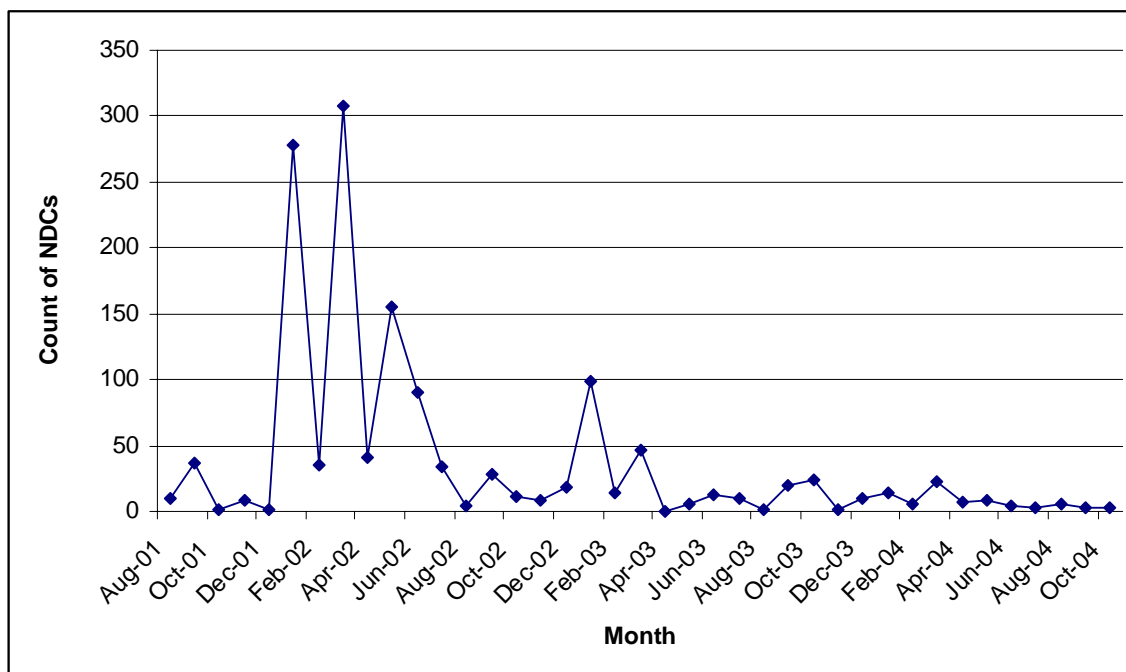
<sup>15</sup> See ¶ 10 of the *Complaint*.

<sup>16</sup> Indeed, I understand that, in order to avoid detection and adverse manufacturer response, the Scheme was often effectuated at those times when a drug manufacturer reported increases in WAC to FDB and did not monitor carefully enough the changes in the spread that were imposed with the concomitant publication of increased WAC and AWP. See ¶ 139 of the *Complaint*.

If and when the Scheme was observed and contested by the manufacturer, I understand that the FDB had sufficient market power to defeat such objections; see ¶ 148 of the *Complaint*.

- This increase in reimbursement rates paid by Class members is attributable to all Class purchases by NDC.
- That number of units or scripts distributed to and reimbursed by Class members can be calculated using standard industry data sources. Total units/scripts produced and sold can be calculated from manufacturer data summarizing extended units/scripts produced and sold by NDC during the Class Period. Alternative, more-easily accessible sources of industry-wide survey data on total retail sales are Verispan and IMS. Such data are available from these vendors directly or indirectly through business entities which purchase and use data. Indeed, since Defendant McKesson and other wholesalers are major contributors of data to IMS, it is possible if not likely that the IMS data can be obtained from McKesson. Alternatively, the source data that McKesson provides to IMS with which IMS infers total market sales may be a useful basis measuring total market sales/scripts filled.
- Having measured total extended units/scripts reimbursed at retail, that portion reimbursed at allowed amounts calculated with reference to FDB AWP can be calculated using standard survey instruments and survey information described in more detail below.
- The effect, if any, of the Scheme upon rebates paid to the Class and the resulting changes in those rebate payments that would occur absent the Scheme can be analyzed and measured.

**Figure 1**  
**Number of NDCs with Spread Change from 20% to 25%**  
**August 2001 through October 2004**



- d) The analysis and measurement of damages can and should be conducted class-wide.
- The source of data to measure the inflation or overcharge implied by the Scheme is the same for all Class members – the FDB.
  - The sources of data for aggregate Class purchases is the same for all Class members – market-wide sales from manufacturers or market-data vendors (IMS, Verispan, perhaps others).
  - Survey methods exist to identify and sample a sufficient set of market entities to calculate that portion of total scripts filled by period for which the reimbursement was determined by the FDB AWP.
- e) There exists a standard formulaic methodology by which Class-wide damages can be calculated, which uses the data described above. The methodology is analogous to methodologies used to calculate the impact of price increases in a variety of contexts. For examples, such methodologies are used to calculate damages arising from illegal price increases generally;<sup>17</sup> to calculate damages in antitrust litigation, particularly recent pharmaceutical litigation;<sup>18</sup> to calculate damages in litigation related to the manipulation of the AWP;<sup>19</sup> and to analyze revenue changes from strategic price changes by producers in the pharmaceutical industry specifically and in all industries generally.

### III. Analysis

#### A. Industry Reliance upon FDB AWP Data

16. Class definition and Class membership is straightforward and unequivocal. It is determined simply by reference to the AWP in the reimbursement formulae used for specific transactions by third party payors (TPPs), consumers, PBMs and retailers.

17. Given the recent trend to computerized calculation and processing of drug claims, accessible and easily interactive AWP data bases are crucial to efficient claims

<sup>17</sup> Federal Judicial Center, *Reference Manual on Scientific Evidence*, 1994; see Daniel L. Rubinfeld, “Reference Guide on Multiple Regression,” pp. 417-469 and Robert E. Hall and Victoria A. Lazear, “Reference Guide on Estimation of Economic Losses in Damages Awards,” pp. 471-523.

<sup>18</sup> I have implemented such methods in the following matters: *In the Matter of Hoechst Marion Roussel, Inc., Carderm Capital L.P., and Andrx Corporation*, Docket No. 9293, United States of America Before Federal Trade Commission; *In re Terazosin Hydrochloride Antitrust Litigation*, Case No. 99-MDL-1317 Seitz/Garber, United States District Court for the Southern District of Florida; *In re Ciprofloxacin Hydrochloride Antitrust Litigation*, Master File No. 1:00-MD-1383, United States District Court for the Eastern District of New York. See also Daniel L. Rubinfeld and Peter O. Steiner, “Quantitative Methods in Antitrust Litigation,” *Law and Contemporary Problems*, 46(4), Autumn 1983; and Judge Edmund’s decision in certifying class *In re: Cardizem CD Antitrust Litigation*, Master File No. 99-MD-1278, 200 F.R.D. 326 (E.D. Mich. 2001).

<sup>19</sup> As stated by this Court in the *Memorandum and Order*, ¶¶ 14-16 & 57-60. See also my Declarations in the matter *In re: Lupron Marketing and Sales Practices Litigation*, United States District Court, District of Massachusetts, MDL No. 1430, CA No. 01-CV-10861.



administration.<sup>20</sup> FDB has been recognized as offering the best data base with those characteristics, and reliance upon FDB AWP data became standard practice by the end of the 1990s. These facts have been recognized by the Federal Trade Commission (FTC)<sup>21</sup> in their recent forced divestiture of MediSpan from FDB.

- a) For the four years prior to the Class Period, FDB and MediSpan were integrated and operated as a single entity, given the fact that the Hearst Corporation, owner of FDB, had acquired MediSpan through the acquisition of all capital stock of J.B. Laughery, Inc., on or about January 15, 1998.
- b) According to the FTC,<sup>22</sup> “[t]he principal products sold by ... FDB ... and ... Medi-Span prior to the Acquisition and Medi-Span’s integration into Defendant FDB, are comprehensive, integratable drug information databases (hereinafter ‘integratable drug data files’). These are electronic databases containing comprehensive clinical, pricing, and other information on prescription and non-prescription medicines. Integratable drug data files are uniquely capable of being readily integrated with other computerized information systems to help physicians, pharmacists, and others quickly obtain information important to decisions regarding the prescription, dispensing, and purchase of medicines. ... Drug information in other forms is not an adequate substitute for the provision of such information through integratable drug data files.”

As a result of the acquisition, FDB was “the sole provider of comprehensive, integrateable electronic data files providing AWP information throughout the retail pharmacy distribution chain, including most private third-party payors.”<sup>23</sup> Of

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<sup>20</sup> As noted by Professor Ernst Berndt in his paper, “The U.S. Pharmaceutical Industry: Why Major Growth in Times of Cost Containment?” *Health Affairs*, 20(2), 2001: “Recent technological progress, particularly involving information technology and telecommunications equipment, has dramatically changed the way in which third-party drug claims are processed at pharmacies, making covered insurance transactions much more convenient and less costly than they were a decade ago. Today, for example, the privately insured beneficiary usually pays a copayment or coinsurance to the pharmacy upon receipt of the prescription. After monitoring the pharmacy claim request to ensure compliance with formulary provisions, the third-party insurer then seamlessly reimburses the pharmacy electronically for the remainder, based on their contractual arrangement. For publicly provided drug insurance such as Medicaid, even when there is a copayment, the entire transaction is typically processed instantaneously and electronically. Technological developments involving electronic transactions have also facilitated inexpensive, instantaneous monitoring for safety and formulary compliance by PBMs.”

These “technological developments” would not be possible without a comprehensive and interactive electronic data base for AWP. FDB provides this comprehensive and interactive electronic data base.

<sup>21</sup> *FTC Complaint*. The background for and discussion of this merger and the FTC’s requirement for divestiture are discussed in the *Complaint* at ¶¶ 84-98.

<sup>22</sup> *FTC Complaint*, ¶¶ 12-13.

<sup>23</sup> According to the FTC (*ibid*, ¶¶ 35-38), “Until the Acquisition, Defendant FDB and Medi-Span were substantial, direct competitors within the relevant market of integratable drug data files in the United States, and faced little or no competition from other firms. Competition between Defendant FDB and Medi-Span was strong, vigorous, helped hold down prices, promoted product improvements, and improved the quality of service. After the Acquisition, and to this day, Defendant FDB held and holds a monopoly or near monopoly in the relevant market, [and] ... there remains little or no competition to Defendant FDB in the relevant market.”



course, when marketing its products, First Data made this known stating that it ‘provides you the same AWP prices used by Aetna, PAID PCS, MEDI, MET, most Blue Cross Blue Shield Plans, wholesalers and approximately 49 Medicaid programs’” (*Complaint*, ¶ 107).

- c) Given the FTC’s finding of monopoly or near-monopoly power by FDB in its relevant market (see also footnote 21 above), the FTC ordered FDB to divest itself of MediSpan as of December 19, 2001.<sup>24</sup> While this divestiture began to cure the problem of monopolization it did not cure the effects of the Scheme.
  - MediSpan’s calculations of AWP and the spread from WAC were inherited from FDB and their reported AWPs and spreads were identical<sup>25</sup>
  - A preliminary review of the MediSpan AWP data for the NDCs considered in this matter confirms that substantially all of the AWPs were identical to those published by FDB.<sup>26</sup>

## **B. The Formulaic Methodology for Calculating Aggregate Class-Wide Damages**

18. Given the pervasive market reliance upon FDB price data noted by the FTC, it would be reasonable to infer that the AWP for those drugs (delineated by NDC) affected by the Scheme would have been the basis for increases in the reimbursement rates paid for all or substantially all units manufactured and sold during the Class Period. This inference can and will be verified as part of the damage analysis conducted using the methods described in the next paragraphs.

19. In order to calculate aggregate Class-wide damages, one must calculate the extent to which the Scheme increased Class member reimbursement rates per transaction and the number of transactions subject to the Class definition. These calculations are standard and completed using readily available data, as discussed briefly in Section II above.

20. The extent to which the AWPs were increased by the Scheme is calculated by NDC as follows.

- a) Denote the wholesale acquisition cost (or its equivalent) reported by the manufacturer to FDB as WAC. The manufacturer’s determination of WAC is unaffected by the Scheme.

<sup>24</sup> See Manufacturers Divestiture Notice, [http://www.medispans.com/Products/MFG\\_divestiture\\_notice.aspx](http://www.medispans.com/Products/MFG_divestiture_notice.aspx) as accessed June 29, 2006.

<sup>25</sup> I have been informed by Counsel that the Consent Decree entered in November 2001, required FDB to sell the MediSpan business to Facts and Comparisons. The Decree required that FDB provide Facts and Comparisons with all FDB price information until Facts and Comparisons was able to develop its own production system.

<sup>26</sup> The analysis was done for 2002 and a portion of 2003. We did not have MediSpan data beyond that time.

- b) Denote  $AWP^{pre}$  as the pre-Scheme AWP and  $AWP^{post}$  as the post-Scheme AWP. Note that  $(AWP^{pre} - WAC)/WAC = 0.20$  and that  $(AWP^{post} - WAC)/WAC = 0.25$ . Note also that all three prices are readily found in the FDB data.
- c) Hence  $AWP^{pre} = 1.20 * WAC$ ;  $AWP^{post} = 1.25 * WAC$ ;  $\Delta AWP = AWP^{post} - AWP^{pre} = (1.25 - 1.20) * WAC = 0.05 * WAC$ ; and  $\Delta AWP / AWP^{pre} = 0.05 * WAC / 1.20 * WAC = 4.16666\%$ , which I round to 4.2%.
- d) Hence, the Scheme increased AWP by 4.2% for every relevant NDC.<sup>27</sup>

21. The extent to which the reimbursement rates (AAs) were increased by the Scheme is calculated by NDC as follows.

- a) The formula for reimbursement for brand-name self-administered drugs is well-known to be  $AA^{pre} = \{AWP^{pre} - x\% + df\} = \{(100\% - x\%) * AWP^{pre} + df\} = p * AWP^{pre} + df$ , where  $x\%$  and  $df$  have been described above and  $p = (100 - x)$ , which is expressed as  $0 < p < 1$ .<sup>28</sup>
- b)  $AA^{post} = p * AWP^{post} + df$ ;  $p$  and  $df$  remain unaffected by the Scheme.
- c)  $AA^{post} - AA^{pre} = \Delta AA = p * \Delta AWP = p * 0.05 * WAC$ .
- d)  $\Delta AA / AA^{pre} = p * 0.05 * WAC / (p * 1.20 * WAC + df) < p * 0.05 * WAC / p * 1.20 * WAC = 4.2\%$ , if the allowed amount is assumed to include the dispensing fee. If the allowed amount includes the ingredient cost alone,  $\Delta AA / AA^{pre} = 4.2\%$ .
- e) Hence, the Scheme increased the allowed amount reimbursed by NDC by less than 4.2%, the percentage increase in the AWP. If the dispensing fee is relatively small relative to AWP, the increase in reimbursement rates is approximately the same as the increase in AWP, 4.2%. If the dispensing fee is not included in the allowed amount, the increase is 4.2%.
- f) It is well recognized by testimony before this Court that for brand-name self-administered drugs,  $0.13 < x < 0.18$ .<sup>29</sup> Assuming on average  $x = 0.15$ ,  $p = 0.85$ . Therefore, averaged over all transactions by NDC,  $\Delta AA = 0.85 * 0.05 * WAC = 0.0425 * WAC$ .
- g)  $\Delta AA$  can be calculated in terms of the AWP or WACs reported by FDB.

<sup>27</sup> Note that a small sub-set of the NDCs listed in Appendix A experienced an increase in spread greater than the typical 5%. For these particular NDCs, the pre-Scheme spread was less than 20%, but was then increased to 25% post-Scheme (see, for example, Biaxin in the *Complaint*, ¶ 129). The methodologies presented in this Declaration can easily incorporate these NDCs into the damage calculations.

<sup>28</sup> Extensive testimony supporting this formulation has been presented to this Court by Experts for drug manufacturers and by Professor Berndt (see ¶¶ 15 and 49, Berndt Report, *op cit.*)

<sup>29</sup> Judge Saris, *Memorandum and Order*, at page 24 states, "It is important for the manufacturer to sell to the wholesaler at a price that allows both for the wholesaler's take (usually 2%) and for the pharmacy to earn a profit from selling to TPPs and consumers at AWP minus 13% to 18%. (Berndt Report, ¶¶ 22, 24-27.)" *Emphasis added*. Both Mr. Young (Defendants' expert) and I concur, see ¶ 42 of my December 16, 2004 Declaration.

22. Using industry-wide information from manufacturers, industry data sources (IMS, Verispan or other) and/or from McKesson data (see ¶ 14.c), I can calculate total units of any NDC prescribed, distributed and reimbursed for all drugs subject to this litigation by time period. Denote that total as Q. If 100% of a given drug produced and prescribed is reimbursed by the Class at rates determined by the FDB AWP, aggregate “gross” overcharge damages are calculated by NDC as

$$(1a) \quad \text{Damages}^g = \Delta AA * Q.$$

Given FDB’s monopoly cited by the FTC and given the continued use of the FDB data post divestiture by Facts and Comparison, it is likely that 100% or nearly 100% of all units of a given NDC subject to this litigation were reimbursed based upon the FDB AWP (subject to the caveats discussed in the next paragraph) and subject to the gross damage calculation in Equation (1a). Alternative variations of Equation (1a) are possible, depending upon the mix of FDB and IMS data used in the damage calculation.

23. The issue of rebates, which arose in the AWP litigation does not affect a finding of liability here. Here the fact of Class-wide impact and injury is determined directly by the Scheme.

24. While unlikely, the size of the damages induced by the impact and injury could be affected by rebate payments. If I am asked to account for any possible changes in rebates that have occurred as a result of the Scheme and net against the damage calculation any reduction in those rebate payments had the Scheme not occurred, this can be done on a class wide formulaic basis. I would proceed as follows.

Rebate payments are determined by a variety of factors.<sup>30</sup> To the extent that the Scheme had an effect on those factors, rebates may have increased with the Scheme. For example,

- a) If the Scheme increased the quantity of a relevant drug prescribed relative to therapeutic competitors not subject to the Scheme, rebates would have increased as a result of the Scheme, *if* rebates were calculated on a market share basis.
- b) If total units of a relevant drug prescribed and sold increased as a result of the Scheme, rebates would have increased as a result of the Scheme, *if* rebates were calculated on a total sales basis.
- c) If total units of a relevant drug were given more advantageous formulary placement as a result of the Scheme, formulary access rebates would have increased, *if* formulary rebates were paid.

25. The Scheme was effectuated by FDB and McKesson. The Scheme was advocated by retailers. The Scheme was at times resisted by manufacturers, and therefore was unlikely to offer the manufacturer benefits (discussed in the preceding paragraph) for which manufacturers paid rebates. Indeed, if the Scheme would have benefited the relevant manufacturers, they would have increased the spread to 25% on their own. I

<sup>30</sup> For example, market share rebates; formulary access rebates; total sales rebates.

therefore see no obvious reason to conclude that the Scheme benefited manufacturers and increased rebate payments paid to Class members.

To the extent that rebates are determined as a percentage of manufacturer revenue, rebates are unaffected by the Scheme.<sup>31</sup> To the extent that rebates are determined as a percentage of WAC, rebates are unaffected by the Scheme.<sup>32</sup>

However, for my analysis I make the *most conservative* assumptions (in favor of Defendants) regarding rebate payments and credits. Specifically, I assume

- a) All rebate payments are related to and determined *solely by total sales*. Market share rebates, formulary access rebates and any other rebates *are not paid*.
- b) Total manufacturer sales are booked at list price (i.e., AWP, which is not standard business or accounting practice) rather than net sales price (i.e., ASP, which is standard business and accounting practice).
- c) All rebates paid are distributed to the TPPs whose reimbursement rates have been inflated by the Scheme; no portion of the rebates is retained by the PBMs through which the drugs are distributed.
- d) Total rebates paid amount to approximately 5% of AWP.<sup>33</sup>
- e) Under these extreme assumptions, incremental rebates earned as a result of the Scheme are  $5\% \cdot (AWP^{\text{post}} - AWP^{\text{pre}}) = 0.05 \cdot (AWP^{\text{post}} - AWP^{\text{pre}}) = 0.05 \cdot (1.25 - 1.20) \cdot WAC = 0.0025 \cdot WAC$ .
- f) The increased reimbursement paid as a result of the Scheme is  $\Delta AA = 0.85 \cdot 0.05 \cdot WAC = 0.0425 \cdot WAC$  per unit reimbursed (§ 21.f above). Under the extreme assumptions regarding rebates developed above, for every unit incremental rebates are  $0.0025 \cdot WAC$ , or approximately 6% of the overcharge.<sup>34</sup>

If adjusted Class damages are calculated as Equation (1a) above and if rebates are increased by the Scheme to the extent implied by the assumptions above,

$$(1b) \quad \text{Damages}^{\text{fully-adjusted-tp}} = 94\% \cdot \Delta AA \cdot Q.$$

This measure of damages is extremely conservative.

<sup>31</sup> ASPs are not alleged to change as a result of the Scheme. While I have observed rebates = 5-8% of *net sales* for branded self-administered drugs (see § 30) of my September 3, 2004 Declaration in Support of Class Certification in the MDL AWP litigation), since ASPs do not change with the Scheme, rebates paid per unit sold are 5-8% of ASP *in both* the actual and but-for worlds. Hence, no correction for rebates is necessary.

<sup>32</sup> WAC is not alleged to change as a result of the Scheme. While I have observed rebates  $\approx 6\%$  of WAC (see § 30.b) of my September 3, 2004 Declaration in Support of Class Certification in the MDL AWP litigation), since WACs do not change with the Scheme, rebates paid per unit sold are 6% of WAC *in both* the actual and but-for worlds. Hence, no correction for rebates is necessary.

<sup>33</sup> This assumption follows from the previous two footnotes; see *ibid*.

<sup>34</sup> That is, incremental rebates relative to inflated reimbursement rates =  $0.0025 \cdot WAC / 0.0425 \cdot WAC = 5.9\%$ .

I declare that this declaration is true and correct.

**/s/ Raymond S. Hartman**

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Raymond S. Hartman  
Executed on December 20, 2006

**ATTACHMENT C.II**

**MARCH 2007 REBUTTAL DECLARATION ON CLASS CERTIFICATION**

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

NEW ENGLAND CARPENTERS  
HEALTH BENEFITS FUND; PIRELLI  
ARMSTRONG RETIREE  
MEDICAL BENEFITS TRUST;  
TEAMSTERS HEALTH & WELFARE  
FUND OF PHILADELPHIA AND  
VICINITY; and PHILADELPHIA  
FEDERATION OF TEACHERS HEALTH  
AND WELFARE FUND,

Plaintiffs,

v.

FIRST DATABANK, INC., a Missouri  
Corporation; and McKESSON  
CORPORATION, a Delaware Corporation,

Defendants

Civil Action No. 1:05-CV-11148-PBS

**REBUTTAL DECLARATION OF RAYMOND S. HARTMAN**  
**IN SUPPORT OF PLAINTIFFS' MOTION FOR CLASS CERTIFICATION**



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### EXECUTIVE SUMMARY

I have been asked by Counsel to the named Plaintiffs and the Class in this matter to review and respond to the opposition to Plaintiffs' motion for Class certification. I have considered and analyze below this opposition. My conclusions remain, that using standard economic analysis, I can demonstrate Class-wide impact from the Scheme that raised prices on the brand named drugs at issue and that proof of damages on a Class-wide basis is also possible.

- The 5% Scheme caused Class-wide impact and injury. The AWP's of hundreds of drugs (reflecting more than 1400 NDCs) were clandestinely raised by simply reprogramming the parameter in the FDB computerized information system which calculates the AWP's reported to the industry based on the WACs reported to FDB by the drug manufacturers. Since these AWP's are the contractual basis of reimbursement rates paid by the Class members, this reprogramming had an immediate impact upon transaction prices, an impact no different than that of a straightforward price fixing case.
- I can demonstrate that the Scheme caused Class-wide impact and injury using common Class-wide evidence. This demonstration is fully supported by McKesson and industry documents acknowledging the impact. Under no theoretical or evidentiary showing is it possible to credibly demonstrate complete mitigation of the impact and injury.
- The formulaic methodology that I have put forward provides an accurate calculation of damages to the Class resulting from the Scheme. The methodology is based upon standard economic methods and explicitly incorporates the realities of reimbursement calculations on the part of the Class members.

In rebuttal, Dr. Willig attempts to argue, in most cases through conjectured examples, that the impact and injury of the Scheme "could have been" mitigated by a variety of market responses, which "may" therefore necessitate individualized examination of Class members. His attempts fail. He offers no factual evidence demonstrating that such mitigation was possible or did occur, overall or for individual Class members.

- He offers no factual evidence that any Class-member TPPs had knowledge of the Scheme. He offers no evidence that TPPs made use of such knowledge to renegotiate reimbursement rates in ways that mitigated the economic injury induced by the Scheme.
- He offers no factual evidence that any PBMs knew of the Scheme until it had been ongoing for some period of time. More importantly, the evidence he does provide indicates that only one PBM came to realize that some changes were underway though even that PBM nowhere acknowledges the actual Scheme at issue. However, the evidence indicates that this PBM's information was incomplete, and that the PBM was ambiguous about whether and how to use the information to its benefit or to the benefit of its client TPPs.
- I find no evidence in discovery materials or in the public press that indicates or even suggests that other PBMs and TPPs knew of or acted upon knowledge of the 5% Scheme. Indeed, unlike the AWP case, there is no need to examine whether numerous governmental reports, press stories, congressional hearings and the like transmitted knowledge to the market place. And there is nothing in the record to suggest that members of the Class had such knowledge.
- Absent a showing of actual knowledge or actual competitive response, Dr. Willig presents measures of trends in drug reimbursement over 1995-2005. He either asserts or implies that the changes he observes are a direct response to the 5% Scheme, when under proper analysis it is clear that they are not. All of the variations or changes in reimbursement terms he cites either occurred prior to implementation of the 5% Scheme or were induced by general market trends that began prior to the implementation of the 5% Scheme and merely continued during its implementation. Since they would have occurred absent the Scheme, proper economic analysis requires holding them constant for the purpose of analyzing the impact of the Scheme. I demonstrate this fact using Dr. Willig's own data for a ten-year trend summarizing discounts off AWP and dispensing fees revealed in the reimbursement rates paid by a large sample of TPPs.

Thus, my original opinions regarding Class-wide impact, injury and the calculation of the resulting economic damages remain unchanged.

## I. QUALIFICATIONS

1. My name is Raymond S. Hartman. I have previously presented my qualifications to this Court in this matter, *New England Carpenters Health Benefits Fund, et al. v. First*

*Databank, Inc., and McKesson Corporation.*<sup>1</sup> Attachment A summarizes qualifications, including deposition and trial testimony, arising since submission of my last declaration. In performing this analysis, I have cited the materials listed in Attachment B.

## II. OVERVIEW AND ANALYSIS

2. I have been asked by Plaintiffs' Counsel to review and critically respond to the opposition of McKesson to Class certification, specifically to the declaration of Dr. Willig.<sup>2</sup> I find that the opposition fails to alter the opinions set forth in my Affirmative Declaration in Support of Class Certification for several reasons.

3. First and foremost, Dr. Willig's analysis fails because he mischaracterizes the 5% Scheme and the market's ability to respond to it. The Scheme was simply and immediately effectuated whenever a relevant drug manufacturer, who previously used an AWP-to-WAC spread of 1.20, reported its new WAC to FDB. At that time, FDB merely flipped a computer switch that increased the spread to 1.25. The Scheme was thereby effectuated immediately and clandestinely for the relevant NDCs. Any entity reimbursing on the basis of FDB AWP's thereafter was impacted and injured. Dr. Willig incorrectly asserts that the market could negate the impact and injury arising from this Scheme. To do so, FDB's pricing practices and procedures had to be sufficiently transparent (indeed,

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<sup>1</sup> Declaration of Raymond S. Hartman in Support of Plaintiffs' Motion for Class Certification, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS, July 14, 2006; updated December 20, 2006 (hereafter *Hartman FDB Declaration and Hartman Updated FDB Declaration*). I shall also refer, where necessary, to my September 27, 2006 Declaration, *Impact and Cost Savings of the First Databank Settlement Agreement*, submitted in support of the proposed *FDB Settlement Agreement* (hereafter *Hartman FDB Settlement Declaration*).

<sup>2</sup> Expert Report of Robert D. Willig, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc. and McKesson Corporation*, United States District Court, District of Massachusetts, C.A. No. 1:05-CV-11148-PBS, January 24, 2007 (henceforth *Willig Declaration*).

*perfectly transparent*) to render the 5% Scheme evident to the preponderance of relevant competitive entities *almost immediately* and competition among PBMs had to be *sufficiently perfect* to compete away the impact of the Scheme on the Class-member payors through immediate contract renegotiations. In real-world markets, such conditions are impossible. Certainly, no evidence has been presented to support assuming such conditions. Dr. Willig incorrectly infers that competition did work so effectively that *everything (or enough things) else did* change as a direct result of the implementation of the 5% Scheme to negate its impact and injury. These assertions fail as evidenced by the data and discovery materials.

4. Furthermore, Dr. Willig misapplies basic principles of economic theory to complex markets with no support from actual evidentiary materials.

- a) Dr. Willig's testimony offers a limited historical review of trends in pharmaceutical markets and in patterns of reimbursement for self-administered drugs (SADs). He introduces hypothetical variations that *could occur* in the determinants of drug reimbursement.<sup>3</sup> However, he offers little or no evidence of actual changes in the determinants of reimbursement that *have occurred in direct response* to the challenged conduct.
- b) Dr. Willig deconstructs my formulaic damage methodology into its constituent elements, but only analyzes how each element "could" or "can" or "might" or "may have" or "could have" changed in response to the 5% Scheme. In some places, he asserts that such changes "could be" sufficiently large so as to either eliminate any injury arising from the 5% Scheme<sup>4</sup> or even make the Plaintiffs better off as a result of the 5% Scheme.<sup>5</sup>

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<sup>3</sup> The elements or determinants of reimbursement include, but are not limited to, the discount off AWP (d), the dispensing fee (df), the rebate-pass-through percentage, the administrative fees paid to PBMs, the design of tiered co-pays and their average level, the duration of contracts and the terms of renegotiation.

<sup>4</sup> See *Willig Declaration*, ¶ 43, where Dr. Willig states "My analysis of the role of PBMs in the self-administered branded prescription drug distribution business shows that PBMs facilitate the operation of market mechanisms that cause TPP reimbursement rates to return to or retain their levels that prevailed prior to the artificial change following the change in the AWP/WAC ratio and artificial inflation in AWP."

<sup>5</sup> See *Willig Declaration*, ¶ 82. I note in passing that if the equilibrium analysis Dr. Willig puts forward in his ¶¶ 32-38 were correct (*and it is not*), the market will return to the equilibrium that existed prior to the implementation of the 5% Scheme and the ***TPP Class members cannot be made better off***.

- c) Dr. Willig incorrectly assumes a model of perfect transparency for this market. That is, he assumes that every participant in the market (drug manufacturers, wholesalers, PBMs, TPPs, TPAs) knew everything, immediately, in the same way regardless of how hidden the information may have been. This belief is made evident at his ¶ 40, where he asserts “There is no economically meaningful reason why the character of the dynamics of the responses to the settlement would differ significantly from responses to the AWP/WAC ratio change.” In this reference, he is comparing the market response to the very public announcement of the *FDB Settlement Agreement* in this matter relative to the market response to the conspiracy that FDB and McKesson aggressively attempted to keep secret.<sup>6</sup>

Belief that information in these markets is that transparent and that these two market responses would be the same is unsupported by economic theory and empirical event studies. Comparable assertions would be the following:

- Announcement of a product recall would have the same effect upon economic variables of interest (product prices, equity values) as would non-public information regarding product performance secreted by the relevant product manufacturer.
- Announcement of an informal FDA warning or a formal requirement of a black box warning would have the same effect upon economic variables of interest (product prices, amounts demanded, equity values) as would non-public preliminary indications of product performance, efficacy and/or safety.

Economic theory and practical business realities predict that in both of these examples non-public information would have limited market effects.<sup>7</sup> Since knowledge of the price impacts of the Scheme was limited prior to the public announcement in the Settlement, as a matter of economic theory and business realities the effects of that knowledge were limited.

- d) Where information is not transparent, Dr. Willig relies upon an equally unwarranted theory of perfect, instantaneous competition, which to him seems to have the following tenets.
- Perfect diffusion of the relevant price information concerning the 5% Scheme would immediately result from competition by the important players (read

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<sup>6</sup> In order to avoid detection and adverse market response, I understand the Scheme was often effectuated at those times when a drug manufacturer reported increases in WAC to FDB and many competitive entities did not monitor carefully enough the changes in the spread that were imposed with the concomitant publication of increased WAC and AWP. See ¶ 134 of the First Amended Class Action Complaint, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc. and McKesson Corporation* (hereafter *Complaint*). If and when the Scheme was observed and contested by the manufacturer, I understand that FDB had sufficient market power to defeat such objections; see ¶ 135-6 of the *Complaint*.

<sup>7</sup> Indeed, I have formally measured the differential impact of public versus non-public information in regard to product quality and product recalls; see R. Hartman, “Product Quality and Market Efficiency: The Effect of Product Recalls on Resale Prices and Firm Valuation,” *The Review of Economics and Statistics*, 69(2), May 1987.

PBMs) in the market.<sup>8</sup> Indeed, since “PBMs’ function is to intermediate between retail pharmacies, manufacturers and TPPs,” the PBMs “use[d] their size and access to data [to so] mediate” (his ¶ 67).

- PBMs would immediately compete with one another by passing through to TPPs 100% of an available increase in their margins, thereby forgoing completely and immediately any opportunity to increase their own bottom line.
- This assertion portrays PBMs as disinterested parties, almost non-profit ombudsmen, mediating pricing and contract disputes among a variety of contesting entities and bringing reimbursement rates back to pre-5% Scheme levels (see footnote 4 above). As discussed below, this characterization of PBM competition with regard to this alleged Scheme is incorrect. PBMs are profit-maximizing entities, with agendas of their own, and reasons to hold or withhold information concerning the Scheme for their competitive advantage.

5. See Attachment C for a more detailed analysis of these issues.

### **III. PROPER ANALYSIS CONFIRMS IMPACT AND INJURY TO THE CLASS**

6. Dr. Willig’s analysis fails to alter my conclusions regarding impact, injury and the calculation of damages. Dr. Willig offers only a broad overview of the variety of factors determining reimbursement for SADs. While all of the factors that he identifies do contribute to the determination of actual transactions prices (reimbursement rates), the major factor in that reimbursement formula remains the AWP.

He argues that as these other factors change over time, such changes “could” negate the injury induced by the 5% Scheme. He is correct in conjecturing that these other factors “could” have so changed in response to the Scheme. However, Dr. Willig has presented no evidence linking these changes to the 5% Scheme. Indeed, proper analysis indicates the contrary. That is, although factors affecting reimbursement rates have changed, they did not change in response to the 5% Scheme.

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<sup>8</sup> The competitive paradigms he espouses are more appropriate to the markets with which he has demonstrated more compelling qualifications. Much of his research, publications and consulting seems to be related to telecommunication, power, transportation, and high tech industries.



7. Dr. Willig asserts that my analysis fails because I analyze the changes in reimbursement rates induced by the 5% Scheme, *everything else equal*. He incorrectly asserts that I ignore, *or hold equal*, all other changes in all other factors that he introduces. I do not. I recognize those changes and recognize that proper analysis indicates that changes in *those other factors* have been induced by competitive market forces **generally** over 1990-2005, **not by the 5% Scheme**. Proper comparative static<sup>9</sup> analysis requires *holding those changes constant or equal* for the purpose of demonstrating impact and injury and for calculating damages.

8. Instead, Dr. Willig either asserts or implies, with no supporting evidence that observed changes in reimbursement terms (discounts, dispensing fees, rebate-pass-through percentages, PBM administration fees, etc.) are induced by the 5% Scheme. There is no such evidence. Indeed, all of the variations he cites either **occurred prior to** implementation of the 5% Scheme or were induced by general market trends **that began prior to** the implementation of the 5% Scheme and continued unaffected after the Scheme was implemented. Since they would have occurred absent the Scheme, proper economic analysis requires holding them constant for the purpose of analyzing the impact of the Scheme.

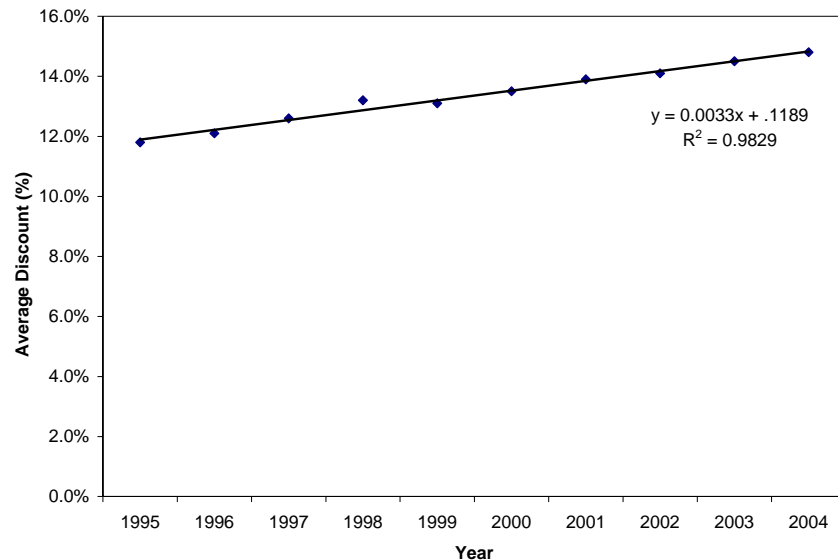
9. Dr. Willig's own data support my interpretation and my assumptions. In his Table 2, he presents average discounts off AWP (d) and average dispensing fees (df) for retail and mail order branded prescription reimbursement. I analyze these data using regression methods in Attachment E to this Declaration. In Figures 1.a and 1.b, I

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<sup>9</sup> I address his discussion of undergraduate comparative statics (found in his ¶¶ 32-36 and his footnote 39) in Attachment C.

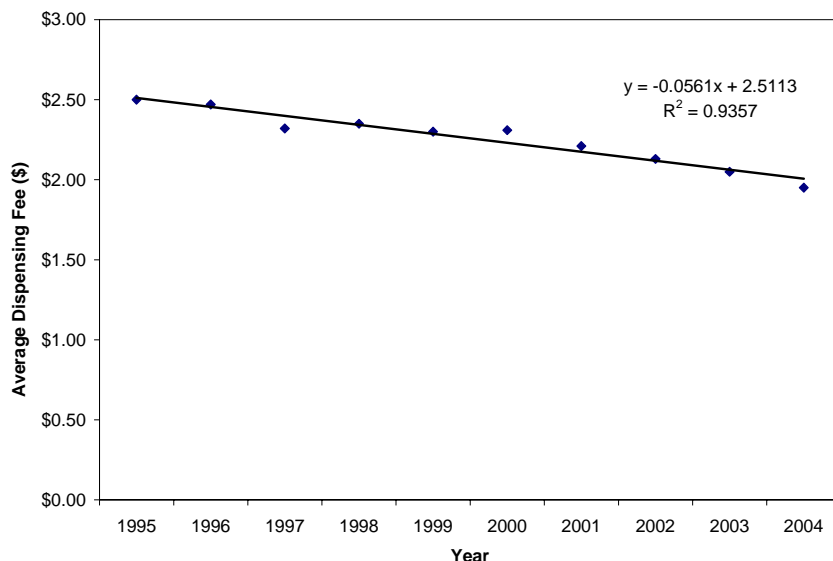
reproduce the regression lines summarizing market-wide trends for average discounts off AWP (d) and average dispensing fees (df) at retail pharmacies.<sup>10</sup>

**Figure 1.a**  
**Average Retail Reimbursement Discount off AWP**  
**for Brand Drugs (1995-2004)**



<sup>10</sup> Measures of df and d at mail order confirm the same trends; see Attachment C, Figures 1.c and 1.d. In addition, Attachment C further elaborates in much greater detail how the real world data put forward by Dr. Willig demonstrates that his conjectures are incorrect and unrealistic.

**Figure 1.b**  
**Average Retail Dispensing Fee for Brand Drugs (1995-2004)**



Note the following:

- a) If there were some response in d and df to the 5% Scheme, evidence should be apparent in measurable divergences from the historical trend. Specifically, in 2002-2004, we should see that discounts are above trend and dispensing fees are below trend, by an observable amount. **They are not.**
- b) Discounts (d) at retail (Figure 1.a) are precisely on trend in 2003 and slightly below trend in 2002 and 2004.
- c) Dispensing fees (df) at retail (Figure 1.b) are above trend in 2002 and slightly below trend in 2003 and 2004.
- d) Any deviations from trend are much less important than the actual trends themselves. Over 1995-2005 discounts off AWP were rising while dispensing fees were falling, both at retail and at mail order.
- e) Indeed, these revealed patterns support the motives for the allegations in this matter: that is, *everything else equal* (i.e., **given these trends**), retailers approached McKesson and FDB to alleviate their profit squeeze. The 5% Scheme was a method to do so.<sup>11</sup>
- f) Analysis of these data refutes Dr. Willig's assertions of fact and his conjectures concerning what "could occur." If the Scheme induced a measurable Class-wide response in 2002-2004, increases in discounts (d) and decreases in dispensing fees (df) should deviate, *by a substantial amount*, from market trends. They do not;

<sup>11</sup> It is interesting to note that not only would retailers benefit but so would mail order pharmacies. Many PBMs own their own mail order facilities and would benefit from increases in the AWP when contracts were not renegotiated with their TPPs, a clear incentive for PBMs to not inform their clients of the Scheme.

rather they reveal *a continuation of trends* that were well underway before the 5% Scheme was implemented.

- g) These observed trends are part of *everything else held equal* across the actual (“post”) and but-for (“pre”) worlds.

10. Furthermore, substantial discovery materials demonstrate that McKesson understood the impacts of the Scheme upon payors; that these impacts would not be renegotiated away; and that economic injury would result.<sup>12</sup>

#### IV. MY AFFIRMATIVE ANALYSIS

11. In the updated December 20, 2006 version<sup>13</sup> of my original July 14, 2006 Declaration, I maintained the assumption that the allegations of the *Complaint* are true. Given those allegations, in addition to my analysis of the structure of the industry, the conduct by the relevant competitive entities in the industry and the evolution of competition in the industry since 1990,<sup>14</sup> I concluded that class-wide analysis was feasible and the most effective way of demonstrating impact, corroborating liability and measuring damages.

12. In measuring damages, I took the standard reimbursement formula for Class member TPPs:

$$(1) \quad \text{Allowed Amount (AA)} = \text{AWP} (1.00 - d) + df,$$

<sup>12</sup> See Attachment F for a summary of McKesson documents which confirm:

- the benefit of the increase in the AWP/WAC spread to its customers (retailers);
- the continued benefit of the 5% Scheme to its customers even in 2004, certainly suggesting that the increases due to the 5% Scheme were not negotiated away; and
- the existence of industry trends.

<sup>13</sup> *Hartman Updated FDB Declaration*, ¶¶ 12-13.

<sup>14</sup> Some of which is developed in my September 3, 2004 Declaration in Support of Class Certification in, *In re Pharmaceutical Industry Average Wholesale Price Litigation*, MDL No. 1456, 01-CV-12257-PBS,. I have been extensively involved in pharmaceutical litigation since the *In Re Brand Name Prescription Drug* litigation.

where  $d$  is the percentage discount off AWP and  $df$  is the dispensing fee.<sup>15</sup> I remarked that while  $d$  and  $df$  may vary somewhat across Class members, the fact that AWP was inflated by the 5% Scheme implied that the reimbursement rate or amount allowed (AA) was higher than it would have been absent the Scheme. I note here that while  $d$  and  $df$  may vary across Class members, the most important determinant of reimbursement (AA) in Equation (1) is the AWP.

13. I proposed to calculate damages as follows. I assumed that while  $d$ ,  $df$  and administrative fees paid to PBMs by TPPs have been changing over time, they **did not change in response** to the 5% Scheme. Hence, regardless of their variation over time and across TPPs, at any point in time, the effect of the 5% Scheme upon reimbursement rates (AA) is determined almost entirely by the impact of the Scheme upon AWP.

14. More specifically, damages are to be calculated as follows. Denoting the pre-Scheme AWP as  $AWP^{pre}$  and the post-Scheme AWP as  $AWP^{post}$ ; and calculating the pre-Scheme allowed amount,  $AA^{pre}$ , and the post-Scheme allowed amount  $AA^{post}$  from Equation (1);<sup>16</sup> the extent to which reimbursement rates (AAs) were increased by the

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<sup>15</sup> Extensive testimony supporting this formulation has been presented to this Court by Experts for drug manufacturers and by Professor Berndt (see ¶¶ 15 and 49, Ernst R. Berndt, Report of Independent Expert Professor Ernst R. Berndt to Judge Patti B. Saris, *In Re Pharmaceutical Industry Average Wholesale Price Litigation*, MDL No. 1456, Civil Action No. 01-12257-PBS, February 9, 2005 (hereafter “Berndt Report”)). Judge Saris has recognized this formulation of drug reimbursement (see her Memorandum and Order re: Motion for Class Certification (hereafter *Memorandum and Order*), *In re: Pharmaceutical Industry Average Wholesale Price Litigation*, United States District Court District of Massachusetts, MDL No. 1456, Civil Action No. 01-12257, August 16, 2005, pp. 24-25).  $d$  is the percentage discount off AWP, expressed here as  $0.00 < d < 1.00$ . Defendants’ Expert Young in the AWP matter, found the percentage discount to range between 14 and 18% (see Rebuttal Declaration of Steven Young, *In re Pharmaceutical Industry Average Wholesale Price Litigation*, MDL No. 1456, 01-CV-12257-PBS, ¶ 134).

<sup>16</sup> One can think of  $AWP^{pre}$  and  $AA^{pre}$  as but-for values and  $AWP^{post}$  and  $AA^{post}$  as actual values.

Scheme (by NDC) is denoted as  $AA^{\text{post}} - AA^{\text{pre}} = \Delta AA$ .<sup>17</sup> Given total units prescribed and reimbursed as Q, aggregate overcharge damages by NDC are calculated as

$$(2) \quad \text{Damages} = \Delta AA * Q.$$

15. The data and data sources required to implement this damage calculation are identified in my December 20, 2006 Updated Declaration;<sup>18</sup> they are common to the Class. I demonstrated that the analysis and measurement of damages can and should be conducted Class-wide.<sup>19</sup> My proposed formulaic methodology is analogous to methodologies used to calculate the impact of price increases in a variety of contexts.<sup>20</sup> While the size of the damages induced by the impact and injury could be affected by rebate payments, I have demonstrated that the impact of such changes can be calculated and will be small.<sup>21</sup>

#### V. DR. WILLIG'S ASSERTION THAT VARIATION AMONG CLASS MEMBERS DEFEATS CLASS CERTIFICATION IS INCORRECT

16. Dr. Willig asserts, incorrectly, that issues of individuality and variation across Class members render the class device inappropriate for this litigation because of the

<sup>17</sup> Specifically, using Equation (1),  $AA^{\text{pre}} = AWP^{\text{pre}} (1.00 - d) + df = p * AWP^{\text{pre}} + df$ , where  $p = (1 - d)$  and  $0 < p < 1$ . Similarly,  $AA^{\text{post}} = p * AWP^{\text{post}} + df$ . Since p and df (and administrative fees paid to PBMs) are not altered in direct response to the Scheme,  $AA^{\text{post}} - AA^{\text{pre}} = \Delta AA = p * \Delta AWP$  is the impact of the Scheme upon Class member reimbursement per prescription. The formal analysis is found in ¶¶ 15, 20-22 of my December 20, 2006 Updated Declaration.

<sup>18</sup> *Hartman Updated FDB Declaration*, ¶ 15.

<sup>19</sup> *Ibid.*, ¶ 15.d).

<sup>20</sup> *Ibid.*, ¶ 15.e).

<sup>21</sup> In fact, deposition testimony in this matter confirms that rebates are typically not paid based on AWP benchmarks. Freebury testified that ESI is the only major PBM with AWP-based rebates and that AstraZeneca renegotiated with ESI to eliminate or reduce the AWP-based rebates on the grounds that AZ did not change their WACs and should not be penalized for these increased AWP. This testimony undermines Dr. Willig's conjecture that greater rebates "could" or "would" broadly offset the cost of the 5% Scheme. (Deposition of John Richard Freeberry, In re Pharmaceutical Industry Average Wholesale Price Litigation, MDL No. 1456, 01-CV-12257-PB, pp. 126-130, May 20, 2004).

extensive “individual inquiry ... required” of each Class member. This is a familiar Defense argument. These arguments are not compelling.

17. There is absolutely no market which does not involve variation across the individuals in the market. If variation in the factual situations of individuals constituting a market rendered aggregate economic analysis impossible unless each and every individual were explicitly included in the analysis, all standard and accepted forms of economic analysis would be impossible. The following *illogical* conclusions would ensue.

- a) All econometric analysis and forecasting which rely upon samples of heterogeneous economic entities and/or individuals *would be unreliable and without merit*. Such analysis and forecasting calculates “averages” or “expected values” of economic variables, such as prices and reimbursement rates, rather than the exact amount for each individual or economic entity. This conclusion would hold for all applied econometric research and analysis.
- b) Innovator drug manufacturers *would be wasting resources* if they developed and relied upon aggregate models and sample data (where the samples include quite heterogeneous consumers and physicians) to calculate and forecast the following: aggregate impact of promotional activity upon product demand; aggregate impact of innovator-product launch price upon aggregate demand and market share; aggregate impact upon demand of alternative price discount and rebate strategies; and the aggregate impact upon demand of generic launch.
- c) Antitrust damages *could never* be calculated unless the actual world and the but-for world of *all* individuals harmed by the antitrust violation were explicitly analyzed and measured. In short, antitrust damages *could never* be calculated. Certainly, the courts and well-known academics would disagree.<sup>22</sup>

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<sup>22</sup> While not a class action, Daniel Rubinfeld and Peter Steiner discuss regression methods to assess average price impacts and damages for a large group of plaintiffs in a pharmaceutical market (sales of ampicillin) subject to the same individual variabilities found here; see their discussion of *In re Ampicillin Antitrust Litigation*, 88 F.R.D. 174 (D.C. Cir. 1983) in D.L. Rubinfeld and P.O. Steiner, “Quantitative Methods in Antitrust Litigation,” *Law and Contemporary Problems*, 46(4), Autumn 1983. See also Daniel Rubinfeld, “Reference Guide on Multiple Regression,” pp. 179-227; and Robert E. Hall and Victoria A. Lazear, “Reference Guide of Estimation of Economic Losses in Damages Awards,” pp. 277-332; both appearing in *Reference Manual on Scientific Evidence*, Second Edition, 2000, West Group.

Note that Daniel Rubinfeld is the Robert L. Bridges Professor of Law and Professor of Economics and is the Director of the Program in Law and Economics, University of California at Berkeley.



- d) No class *would ever* be certified. Hence, the courts that certified the classes cited in footnote 18 to my December 20, 2006, FDB Declaration or courts that have certified classes in markets for other pharmaceuticals have done so in error.<sup>23</sup>

18. Dr. Willig's position may be more modest. He may believe that heterogeneity and variation among economic entities (and potential Class members) generally does not defeat econometric analysis, damage calculation and Class certification. However, he may believe that the specific variability in *this* market and *this* matter is *much greater* than that found in other markets and matters, and because variability across Class members is incrementally greater in this matter, Class certification is impossible and "individual inquiry would be required."

If true, however, Dr. Willig must put forward his bright-line threshold of variability and indicate how it is that this market and this matter exceed that threshold while all other markets identified above do not. He has not done so.

19. While Dr. Willig has introduced and appealed to variation and how such variation will vary the quantum of impact, injury and damages to individual TPPs, it is my understanding that it is unnecessary to calculate individual damages at this stage. It is my understanding that the formulaic methods that I have proposed must provide a sufficiently accurate calculation of aggregate damages.

My proposed methods will provide an accurate calculation of aggregate damages. Classes have been certified in matters alleging antitrust violations and fraudulent marketing practices in pharmaceutical markets and other markets where there was as much or more variability across individual Class members than is found in this market.

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<sup>23</sup> See, for example, *In re Cardizem CD Antitrust Litigation*, Master File No. 98-MD-1278, 200 F.R.D. 326 (E. D. Mich. 2001); *In re Terazosin Hydrochloride Antitrust Litigation*, Case No. 99-MDL-1317 Seitz/Garber, United States District Court for the Southern District of Florida; and *Cipro Cases I and II*, Judicial Council Coordination Proceeding Nos. 4154 and 4220 (Superior Court, San Diego County).

The standard formulaic methods that I have proposed here were implemented in those matters to calculate damages. The methods rely upon survey information to develop representative average measures of prices or reimbursement across class members.

Indeed, Dr. Willig himself has put forward the type of survey information that I would use. Specifically, in my Figures 1.a and 1.b, I have reiterated his 10 years of average discounts off AWP (d) and dispensing fees (df) for a large sample of TPPs for retail pharmacies. Other sample information exists to enrich Dr. Willig's averages. I have seen individual TPP values of average d and df over time that are tightly distributed around Dr. Willig's averages. The use of such average values of reimbursement or prices is a standard method in applied economics and litigation. Indeed, it can be demonstrated that my formulaic method, which is based upon average measures of price and market penetration, will lead to an **exact** aggregation of individual TPP damages without performing a calculation for and summation of each and every individual TPP.

## **VI. DR. WILLIG MAKES INCORRECT ASSERTIONS ABOUT THE RELEVANT MARKETS**

20. Dr. Willig's analysis incorrectly characterizes important aspects of reimbursement and competitive behavior in the markets in this matter. For example,

a) He makes contradictory statements about the determinants of reimbursement.

- In his ¶¶ 35-36, he asserts that the AWP is an "artificially constructed price measure" with little relevance to actual transaction prices.<sup>24</sup> He states that

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<sup>24</sup> Specifically he asserts, "[Dr. Hartman] assumes without any analysis, and contrary to logic, fact and economic methodology that actual prices follow an artificially constructed price measure (AWP)."

While this Court knows that the AWP is a list price and it "Ain't What's Paid," this Court has recognized the fundamental role of AWP in determining reimbursement rates for SADs and physician-administered drugs (PADs). In her Memorandum and Order re: Motion for Class Certification (hereafter *Memorandum and Order*), *In re: Pharmaceutical Industry Average Wholesale Price Litigation*, United States District Court District of Massachusetts, MDL No. 1456, Civil Action No. 01-12257, August 16, 2005, Judge Saris states (at p. 7), "Throughout the class period, from 1991 to the present, AWP has been the pricing benchmark for most pharmaceutical sales in the United States. (Hartman Decl. Attach. D ¶¶ 29-

“most analyses of actual pricing consider cost, demand, and the nature of competition to be the fundamental variables that determine prices. Artificially constructed price measures [i.e., list prices or AWP] do not enter these models, and thus actual prices are often taken to be independent of artificial prices.”

- However, in the remainder of his declaration, he analyzes how the elements of reimbursement that he hypothesizes may or could negate the 5% Scheme **have in fact been determined by changes over time in AWP.**
- If AWP is “artificial,” “independent of” actual prices and should “not enter these models,” Dr. Willig cannot appeal to increases in AWP over 1990-2005 as important determinants of the other factors affecting reimbursement.

b) He makes incorrect statements about the importance of U&C reimbursement.

- Dr. Willig suggests that the requirement in TPP reimbursement contracts that reimbursement be at the lesser of an AWP-based allowed amount or U&C (usual and customary charge) makes Class-wide analysis difficult. In support of this suggestion, Dr. Willig asserts in his footnote 37 “For a substantial portion of drugs the ‘usual and customary’ price was lower than AWP (DC3701067).”
- I have discussed reimbursement contracts at length in my testimony in the AWP-MDL matter and in the state AWP matters, and I have consistently recognized the fact that payors reimburse at the lesser of an AWP-based amount, other alternative reimbursement rates and the U&C.<sup>25</sup> I have incorporated that reality into my formulaic methodology here.
- In reality, U&C reimbursement is relevant almost only for cash payors. It has almost no relevance to TPP reimbursement. The U.S. General Accountability Office has documented this fact, stating “AWP is typically less than the U&C price. ... The difference between the levels of AWP and U&C prices for brand drugs narrowed slightly during the time period we analyzed. Whereas in the first quarter of 2000 AWP was on average about 91% of the U&C price for the same drug, by the fourth quarter of 2004 AWP was on average about 94% of the U&C price.”<sup>26,27</sup>

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30; Schondelmeyer ¶ 36.)” In forming her opinion, Judge Saris relied upon Professor Ernst Berndt, who noted in his February 9, 2005 Report: “AWP has served as a reference or focal point, an industry standard for baseline reimbursement, and as such a fictional benchmark price from which discounts are frequently specified, directly or indirectly” (¶ 16); and “Recall that pharmacies are typically reimbursed by health plans/insurers/PBMs for drugs they dispense on the basis of a relatively simple formula, such as AWP - X% plus dispensing fee plus (occasionally) administrative fees. ... [A]lmost all single source brand drugs are contractually reimbursed using AWP” (Berndt Report, ¶¶ 49 & 55).

<sup>25</sup> For my discussion of these contracts terms and the implications for reimbursement, see my declarations submitted in re the AWP litigation, both MDL and state specific.

<sup>26</sup> United States Government Accountability Office, Report to Congressional Requesters, *Prescription Drugs: Price Trends for Frequently Used Brand and Generic Drugs from 2000 through 2004*, GAO-05-779, August 2005, pp. 5, 12.

c) He makes incorrect assertions about economic theory.

- In his footnote 36, Dr. Willig asserts that it would make “no economic sense” for FDB to “use its monopoly position to raise the AWP/WAC spread,” because FDB would instead raise the price of its information services. Quite the contrary, it would make perfect economic sense for the FDB to use its monopoly position in whatever ways it felt strategically optimal. The evidence suggests FDB did raise the prices of its information services, post merger.<sup>28</sup> However, there are a multitude of other behaviors enabled by monopoly power, *holding prices constant*, including, but not limited to, reducing product quality (to lower cost); reducing service quality (to lower cost); and implementing other desirable strategies to the monopolist (such as promoting its product to economic entities of strategic value, e.g., retailers).<sup>29</sup> A monopolist can both exploit price and effectuate other strategies precisely because consumers cannot switch to alternative sources to defeat those monopoly behaviors.

21. See Attachment C for additional discussion of Dr. Willig’s analysis.

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<sup>27</sup> See Table 2 in Attachment C. Review of claims data for named Plaintiffs shows that the U&C prices reported in their claims data were greater than AWP 77% of the time (Philadelphia Federation of Teachers); 98% of the time (Teamsters); and 78% of the time (Pirelli Armstrong). For the remainder of the claims of all three named Plaintiffs, U&C was either equal to or greater than the contracted reimbursement rate (AWP-16% for Philadelphia Federation of Teachers, AWP-15.5% for Teamsters, and AWP-13% for Pirelli Armstrong), except for a *de minimis* number of claims for Pirelli and Teachers. Essentially no claims were paid at U&C by the Teamsters. See Teamsters Health and Welfare Fund claims data (THWF4808); the Pirelli Armstrong claims data (CMK-NECarp 000486); and the Philadelphia Federation of Teachers Health and Welfare claims data (PFTHW0156).

<sup>28</sup> See Complaint for Permanent Injunction and Other Equitable Relief Pursuant to Section 7A(g)(2) of the Clayton Act and Section 13(b) of the Federal Trade Commission Act, *Federal Trade Commission v. The Hearst Trust, The Hearst Corporation and First Databank, Inc.*, United States District Court for the District of Columbia, Civ. No. 1:01CV00734, ¶ 21.

<sup>29</sup> For example, the *Merger Guidelines* recognize such behavior as follows: “Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time. (Sellers with market power also may lessen competition on dimensions other than price, such as product quality, service, or innovation.)” Source: U. S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, 4 Trade Reg. Rep. (CCH) ¶ 13,104 (April 2, 1992), *as amended*, April 8, 1997, p. 2, as accessed at <http://www.usdoj.gov/atr/public/guidelines/hmg.pdf>.

Likewise, Dennis Carlton and Jeffrey Perloff in *Modern Industrial Organization* (p. 319) recognize: “...(W)hen consumers prefer different levels of quality, a monopoly manipulates the qualities of goods produced in the market to extract consumer surplus. The monopoly ... chooses the quality spectrum so as to charge a high price to those who value the good the most, and a low price to those who value it the least...”

## VII. SUMMARY AND CONCLUSIONS

22. Having reviewed Dr. Willig's declaration, I find that his analysis offers no factual evidence refuting the opinions set forth in my affirmative declaration concerning Class-wide impact, injury and the calculation of damages. His analysis looks at trends in drug reimbursement over 1995-2005 and either asserts or implies that the changes he observes are in direct response to the 5% Scheme, when under proper analysis it is clear that they are not. All of the variations he cites either **occurred prior to** implementation of the 5% Scheme or were induced by general market trends that **began prior to** the implementation of the 5% Scheme and **merely continued** during its implementation. Since they would have occurred absent the Scheme, proper analysis requires holding them constant for the purpose of analyzing the impact of the Scheme. In addition he makes a variety of analytic mistakes.

Given that his analysis offers no more than speculation and incorrect economic interpretations, I find his analysis does not alter my original opinions concerning impact, injury and the formulaic measurement of damages in this matter.

I declare that the foregoing is true under penalty of perjury.

**/s/ Raymond S. Hartman**

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March 18, 2007

**ATTACHMENT D**

## ATTACHMENT D

### ANALYSIS OF INFORMATION AND ITS DISSEMINATION

#### I. OVERVIEW AND SUMMARY

1. McKesson's counsel assert that competitive market forces quickly mitigated the impact and injury of the 5% Scheme because

- a) The relevant prices (AWPs and WACs) of the challenged drugs were public information, available from FDB.
- b) PBMs observed and understood the implications of changes in Spreads as they occurred – by drug manufacturer, by NDC and by month.
- c) The PBMs quickly and fully informed their client TPPs of these prices changes, allowing those client TPPs to rapidly renegotiate their reimbursement contracts.

2. In short, according to McKesson's counsel and expert Dr. Willig, while the 5% Scheme was implemented over some 3½ years and most actively over the 20 months from August 2001 through March 2003, all or substantially all relevant market entities knew about the Scheme; all or substantially all entities shared that information; and all or substantially all entities were able to and did act upon it, thereby mitigating any impact and injury.

3. Mr. Goldman makes this argument to the Court as follows:

“[Plaintiffs] say, oh, no, nobody knew the ‘scheme.’ You know, they disguise it in the word ‘scheme,’ and you're onto that, your Honor. It's not nobody knew about the differential went up because they all did. ***They all knew, they all were told...*** [because] ... the AWP and the WAC ... are published. ... Here is the point, your Honor ... Here's only our proposition, and we show this from the PBM. We show it from what Berndt said will happen among vigorous competition among PBMs. ***The PBMs all knew it. They knew this difference occurred. They told the TPPs this. I want to emphasize that they told them that***” (emphasis added).<sup>1</sup>

McKesson's counsel and their expert Dr. Willig, conclude that, as a matter of the economics of the relevant markets, the 5% Scheme simply would not work, could not work and did not work.

4. **These assertions and conclusions fail.** As I demonstrate in this Attachment, they fail for the following reasons:

- a) **They fail on logical grounds.**

McKesson, FDB and the major retailers pressuring for the increased spread resulting from the 5% Scheme are as market-savvy and information-savvy as, if

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<sup>1</sup> Motion/Status Hearing, pp. 44-46.



not more so than, the PBMs and TPPs alluded to by McKesson. If knowledge were as readily available and communicable as McKesson's counsel now says, McKesson, FDB and the major retailers pressuring for the increased spread would have realized that. They would consequently have realized that the increased spread had no chance of benefiting them, because if everyone knew of the Scheme it could not succeed. ***If McKesson's theory of information in this market were correct, McKesson would never have undertaken the Scheme that discovery materials demonstrate they did undertake and from which they and retailers expected to profit.***

b) **They fail on evidentiary grounds.**

- While McKesson asserts that **all** PBMs knew of the Scheme, they put forward supporting evidence that only two PBMs out of more than 50 that serve the market (see Attachment E) knew of the impacts of the Scheme; they put forward no evidence that any PBM knew of the Scheme itself. The evidence for the third PBM, Medco Health, does not support a conclusion that it even knew of the impacts of the Scheme.
- While McKesson asserts that **all** PBMs "told the TPPs this" (i.e., of the Scheme and its consequences), the evidence shows that not to be true.
- The only evidence McKesson has presented is an ESI letter, reflecting a limited portrayal of the impacts of the Scheme. ESI's internal documents reveal that its letter was strategically vague and uninformative and did not share all information with its TPPs. As I demonstrate below, ESI was very guarded about the amount of information shared and the extent to which the information clarified the impacts of the Scheme and how those impacts benefited various market entities.
- While McKesson insinuates that ESI and Caremark were sufficient to inform all TPPs of the Scheme, this insinuation fails.
  - At p. 26 of the *Motion/Status Hearing*, after introducing ESI, McKesson's counsel asserts, "They sent notification to their TPP customers. That's potentially ***a third of all TPPs*** in the country" (emphasis added).<sup>2</sup> At p. 32 of the *Motion/Status Hearing*, after introducing Caremark, McKesson's counsel asserts that Caremark's knowledge of the Scheme "enabled them to recapture the artificial gain that may have been in the system. ... it's then available to be negotiated back to their TPPs. That makes ***two-thirds of all the TPPs*** in this country" (emphasis added).

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<sup>2</sup> As discussed below, I find evidence of notification of 26 TPPs. According to Express Scripts Inc. 8-K for 10/14/05, "Express Scripts, Inc. is one of the largest PBM companies in North America, providing PBM services to over 50 million members. Express Scripts serves thousands of client groups, including managed-care organizations, insurance carriers, employers, third-party administrators, public sector, and union-sponsored benefit plans." Certainly 26 TPPs out of "thousands of client groups" represents a very small percentage of clients who may have been notified in any way. These 26 TPPs are identified in Exhibit D.1. Upon last minute check, I realize there are only 25 TPPs independently identified in Exhibit D.1.

- Based upon the evidence that two of more than 50 PBMs knew only of the impacts of the Scheme, McKesson concludes that 2/3 of all TPPs knew. However, even if these two PBMs informed all of their clients of what they knew, and the evidence demonstrates that they did not, these two PBMs account for only 16% of all insured lives covered by PBMs and only 17% of expenditures processed by PBMs.<sup>3</sup> Therefore, it is unlikely that they account for 2/3 of all TPPs.
- As further discussed below, McKesson's conclusions are unsupportable.

**c) They fail as a matter of economic theory.**

They fail to account for the complicated tradeoff presented to ESI, Caremark and many PBMs by the Scheme. On the one hand, PBMs (either on their own or through their corporate parent) profited directly from the Scheme; revelation of the impacts of the Scheme would eliminate those financial benefits. On the other hand, PBMs could share their newly acquired information with all TPPs, thereby competing to increase their market position and share with the TPPs. This later result is espoused by Dr. Berndt and Dr. Willig. The evidence demonstrates that this latter assumption is too simplistic for the allegations in this matter.

5. Based upon the evidence I have reviewed to date and based upon economic theory, I find insupportable the assertions that all PBMs knew of the Scheme and its impacts; that all TPPs knew of the Scheme and its impacts through their PBMs; and that TPPs were able to either avoid or recoup the overcharges caused by the Scheme.<sup>4</sup>

6. This Attachment proceeds as follows. In Section II, I discuss whether McKesson and the major retailers pressuring McKesson to undertake the 5% Scheme are really as uninformed as McKesson's counsel and expert seem to imply. In Section III, I discuss PBM knowledge of the Scheme revealed by the evidence I have reviewed. In Section IV, I discuss the economic incentives of the PBMs to fully reveal their knowledge of the

<sup>3</sup> Atlantic Information Services, *A Guide to Drug Cost Management Strategies: Recent Results, Current Practices, Future Plans*, 2002, p. 359.

<sup>4</sup> I make the following distinctions regarding the Scheme and knowledge of the Scheme. I find no evidence that any TPPs or PBMs explicitly knew of the Scheme between McKesson and FDB. My finding is buttressed by deposition testimony of Jeffery Herzfeld, McKesson's Senior VP for Pharmaceutical Product Management over 1996-2005, pp. 65-66.

Q: "Yeah. Other than by discussions with counsel, are you aware that one of McKesson's defenses is that the PBMs, and through them the retail pharmacies, were aware of the arrangement between FDB and McKesson?"

A: No, I wouldn't have been aware of that.

Q: Okay. And I take it in your position now in the industry you've never become aware of that allegation?

A: No."

I do find evidence that a very limited number of entities realized that the FDB had arbitrarily but systematically increased the Spreads for a subset of drugs; ESI is such an entity. I may inadvertently refer to these limited situations as being cases where the entity "knew of the Scheme." If so, I mean by that reference that the entity knew only of the impact of the Scheme on a subset of FDB/MediSpan Spreads.

Scheme. In Section V, I discuss the evidence summarizing what the TPPs actually did know.

## II. COULD MCKESSON AND FDB BE AS UNINFORMED AS MCKESSON'S COUNSEL NOW SUGGEST?

7. We know from discovery materials that McKesson believed the 5% Scheme would work. It was not alone. Major retail pharmacies (most importantly those pressuring McKesson to increase the Spread<sup>5</sup>) and drug manufacturers believed and discussed how the 5% Scheme would successfully benefit retail pharmacies, mail-order pharmacies and McKesson.<sup>6</sup> Examples of supporting evidence include, but are not limited to, the following:

- a) "A handful of the largest national chain drug retailers continued to push for increased AWP/WAC markups on drugs, including increased WAC-to-AWP markups for branded drugs that were not already at the 25% level. In and around 1999, national chains and retailers requested increased AWP spread for branded products, and some of them engaged in practices in order to ensure that the increased markups would occur. For example, some large retailers would refuse to stock drugs that had therapeutic equivalents products if the product only had a 20% markup, and more powerful retailers could lock out the products unless the AWP/WAC spreads were adjusted upward."<sup>7</sup>
- In the email to Jim Liebman/Trade/Astra Merck@AMGROUP; dated 06/27/00; Subject, "Retail reaction to spread," Kathleen Zemanek states "I was talking with Longs yesterday and they were asking what our spread on Nexium was going to be. It is a significant issue for them given the low reimbursements from managed care. ... Longs then asked what the spread was going to be on the new product, and when they were told 16.6% [Spread = 1.20], Longs said no way. Longs has walked away from a revenue-generating opportunity because they barely make money filling Rx's for products with a 16.6% spread. We are consistently hearing this from retailers. If our Nexium strategy includes support from retail, then we need to have a 20% spread [Spread = 1.25]."<sup>8</sup>
- In a September 05, 2002 E-Mail to Robert James, Dan Connolly (Bartell Drugs) writes "Schering rep called and wanted to know what I was going to do to move the Claritin business to Clarinex...not a thing I replied...the AWP/to cost is much better on Zyrtec, Allegra and Claritin...and OTC Claritin represented a new profit center for our stores....she is going to talk to

<sup>5</sup> Throughout this Attachment and my Declaration, reference to Spread refers to the AWP-WAC Spread measured as (AWP – WAC)/WAC.

<sup>6</sup> The incentives to McKesson are discussed in ¶¶ 136-138 of the *Compliant*.

<sup>7</sup> *Complaint*, ¶ 112.

<sup>8</sup> AZ0519021-22.

her boss about getting Clarinex AWP changed.”<sup>9</sup>

- Robert James replies on October 11, 2002: “Just wanted you to know that Clarinex AWP spreads went to 20% this week. A few weeks ago, Celexa went to 20% as well. Fat Cat status is just around the corner.”
- b) “The Scheme also directly benefited McKesson’s own pharmacy business. McKesson has an operation called McKesson Valu-Rite, which consists of a nationwide network of independent pharmacies that are connected to McKesson. McKesson manages 275 pharmacies in 35 states and employs 900 pharmacists. Again, an increase in the spread was a direct benefit to these pharmacies by increasing profits off the spread. This in turn also increased McKesson’s profits from its Valu-Rite program.”<sup>10</sup>
- c) “Retail Perspective on Manufacturer-set AWP Spread,” by John Baranick and C.J. James, dated April 22, 1999,<sup>11</sup> states (emphases added):
  - “During the past twelve months, many of the major retail pharmacy chains have approached the Trade CU to discuss Astra’s Average Wholesale Price (AWP) spread. The companies raising the issue include most of the major retail pharmacy chains in the country including Walgreens, Wal-Mart, Eckerd, Rite-Aid, CVS, Kroger, Albertsons, Meijer, and Target. These companies are asking Astra to use a 25% markup when setting AWP prices rather than the 20% markup Astra currently uses for retail-based products. ***By increasing the AWP spread that Astra currently assigns to its products, retail pharmacies will enjoy increased pharmacy margins....***
  - ***The AWP spread issue is becoming critical to retail pharmacies as a growing share of their prescription business is paid by a third party.*** Most of the major retail pharmacy chains have approximately 80% of their prescription business paid by a third party. At this time, most third party payors reimburse retail pharmacies based on the manufacturer-set AWP price of the drug. ... [R]etailers are asking manufacturers to increase their product’s AWP spread in order to assist them in improving their prescription margins....
  - ***Retail pharmacy stands to greatly increase their gross profit margins if manufacturers use a markup of 25% versus 20% when setting AWP prices.*** Remember that reimbursement to retailers is based on the fixed AWP. In the example below [Prilosec 20 mg 30 count], the AWP value has changed based on the perspective of the manufacturer to mark-up using a 20 and 25 percent increase (\$119.57 vs. \$124.55). Using these same two figures to calculate reimbursement to the retailer, by using \$124.55, the retailer’s profit is increased an additional \$4.24. ***However, the third party payor must now***

<sup>9</sup> MCKAWP 0069901-02.

<sup>10</sup> Complaint, ¶ 137.e).

<sup>11</sup> See AZ046136-138.

*pay an additional \$4.24.”<sup>12</sup>*

- d) McKesson prepared similar calculations documenting the retail pharmacy benefit of the Scheme as late as 2004; see citations that are the basis for page 16 of the *Motion/Status Hearing*.<sup>13</sup>
- e) McKesson and FDB believed strongly enough in the economic benefits of the Scheme that they “played hardball” when manufacturers attempted to deviate from the Scheme.<sup>14</sup> McKesson and FDB attempted to cloak the increased Spread introduced by the 5% Scheme by reporting AWP and WACs with the increased Spread only at the time when increased WACs were reported.<sup>15</sup>

8. If however, as McKesson’s counsel and McKesson’s expert now assert, “They all knew, they all were told; the PBMs all knew it. They knew this difference occurred. They told the TPPs this;” it is inexplicable as a matter of rational economic behavior that McKesson and FDB would consider entering into and firmly enforcing the challenged conduct. It is inexplicable that major retailers urged them to do so. It is inexplicable because if everyone knew, the Scheme simply would not work.

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<sup>12</sup> The *Complaint* presents increases in AWP and the implied increases in reimbursement rates for a wider variety of drugs in ¶ 126.

<sup>13</sup> In Attachment F of my March 18, 2007 *Hartman FDB Rebuttal Declaration* in this matter, I present a “Summary of Selected McKesson Documents” supporting this allegation. Additional McKesson documents explicitly calculating the increased profit generated by the Scheme are MCKAWP 0068130-34, where Robert James calculates the increased profit for a client on a set of J&J drugs, stating the Scheme produced “more than 3 times the profit as before.” He summarizes, “We’re a nice advocate to have around. This example is just to provide background to our team so everyone realizes the impact of increasing AWP’s..... Not by McKesson, but by the FDB process.”

Other McKesson documents supporting this allegation include but are not limited to the following:

- Robert James writes in an E-mail on April 12, 2002, “Just a note to let everyone know that ‘I am told’ that the mark up on Avonex and both the old and new sku’s of Copaxone will be changed to 25% (to create a 20% spread on WAC/AWP) next week.” He states that “This should make a significant contribution to your profitability...” and goes on to illustrate “an increase of \$32.89 per script” on Avonex and “increase of \$37.67 per script” on Copaxone. (MCKAWP 0084327.)
- Robert James E-mail to Greg Yonko “Also, few people seem to understand the positive impact on our customer’s profitability. ... This is extremely significant and people need to understand this impact. Just one example with Lipitor 20mg 90s with the old 16 2/3% spread a customer would make \$6.86 profit, with the new 20% spread a customer will enjoy \$17.18 profit....and that is awesome!!” (MCKAWP 0069615-16.)

<sup>14</sup> As noted in footnote 13 of my December 20, 2006 Updated Declaration in Support of Class Certification: “[I]n 2003 one manufacturer indicated that it would ‘no longer report average wholesale prices (AWP) for its products [because of the Scheme]’, First Data reported to McKesson that this manufacturer appeared ‘to be playing hard ball and [First Data] just won’t play.’ First Data indicated that it would, then, ‘just assume the markup is 1.25.’ In this situation, when the manufacturer wanted to be assured that any disclosure of an AWP associated with its product was a price that ‘has not been authorized’ by it, First Data wrote back stating: ‘Wonderful. If we don’t report an AWP, the NDC will not be listed. It is the rules of the database. That database does not allow for statements such as your attorneys wrote below.’”

<sup>15</sup> As noted in my March 18, 2007 *Hartman FDB Rebuttal Declaration*, footnote 6.



9. Based upon my experience and work in analyzing the pharmaceutical industry, I expect McKesson, FDB and the major retailers subject to the allegations to be as well informed as PBMs and TPPs regarding the diffusion of price information and competitive behaviors in these markets. I expect therefore that McKesson, FDB and the major retailers would have realized that price information flows and competition would immediately, or at least very quickly, render their Scheme completely ineffectual, ***if price information flows were as immediate and rapid as McKesson's counsel now assert.*** This begs the following question: Why would McKesson and FDB risk legal liability, knowing that all relevant market entities in the industry would have used all available price information to render the Scheme unprofitable?

10. To accept McKesson's current proposition, one must conclude that McKesson, FDB and the major retailers in the industry were less well informed than these other entities. That conclusion is implausible; I have seen no evidence supporting it. Alternatively, one must conclude that McKesson, FDB and the major retailers were as well informed as some major PBMs and TPPs and more well informed than most about the following:

- a) The fact that information and knowledge of the price changes induced by the Scheme would be slow to diffuse, if at all.
- b) The fact that some PBMs would come to know of some of the impacts of the Scheme, but most would not and none would probably come to know of the Scheme itself.
- c) The fact that those PBMs that did come to know of the impacts of the Scheme would be sufficiently large and diversified so as to use that knowledge to the benefit of ***all*** their affiliated lines of business, including mail order pharmacy, retail pharmacy, PBM activities for TPPs, and as agents to drug manufacturers. As a result, their first and only duty would not be to immediately and sufficiently inform their TPP clients.
- d) The fact that the Scheme was implemented secretly and few relevant entities would know.
- e) Therefore, that the Scheme would most likely be successful.

This latter conclusion is demonstrated by the evidence.

### III. PBM Knowledge of the 5% Scheme – What Did they Know?

11. It is not sufficient to assert, as McKesson's counsel do, that "The PBMs all knew it. They knew this difference occurred." It is necessary to analyze which entities knew what and how that information was used. In their presentation to the Court in the *Motion/Status Hearing*, McKesson's counsel identify only three PBMs – Express Scripts (ESI), Caremark and Medco Health – as support for their broad assertion. Dr. Willig focuses only on ESI.<sup>16</sup> For both McKesson's counsel and Dr. Willig, ESI is the poster

<sup>16</sup> Dr. Willig's specific analysis of what PBMs knew and when is factually limited. In his May 2007 Rebuttal Declaration, he discusses (at ¶ 18) ESI's February 27, 2007 email to ProMedica (a TPP) as support for the contention that ESI knew of the Scheme and transmitted its knowledge of the Scheme to TPPs (in

child for informed, competitive PBM behavior.

12. What does the evidence actually reveal regarding ESI's knowledge of the 5% Scheme and its competitive use of that knowledge? In March 2002, some 8 months after the start of the Class Period, ESI first realized some (only some) of the impacts of the Scheme, as reflected in the following excerpted emails and internal documents:

- a) On March 12, 2002, Everette Neville sent an email stating "I just ... was informed (at least partially) of the First Data Bank AWP situation. As I understand it, First Data Bank has recalculated the way it reports AWP on January 1, 2002. The effect of this is an immediate increase in trend for our clients, increase in rebates, increase in admin fee etc. Dave also mentioned that Pharma<sup>17</sup> [that is, drug manufacturers] was balking at the increase and talking about class action suits against First Data Bank. This has a very high impact potential for our clients."<sup>18</sup>
- b) On March 18, the Internal Memo appearing as Defendant's Exhibit Schechter Ex. 6N<sup>19</sup> was circulated, stating "Some recent increases in reported Average Wholesale Price (AWP) across a number of therapy classes exceed increases in WAC. To date, the AWP's of such frequently prescribed drugs as Lipitor, Prevacid, Prilosec and Zestril, among others, have been affected. Traditionally, AWP increases correspond to increases in WAC ... According to First Data Bank, our pricing service, the recent adjustments were made to reflect a more consistent relationship between WAC and AWP across branded products. First Data Bank advises us that consolidation in the pharmaceutical manufacturing industry has driven many of these changes."
- c) Chris Macinski responded to a request from Ryan Soderstrom for "a SWAT team" effort in an email dated March 28, 2002<sup>20</sup> and denoted of "High Importance":

"Ryan, here is what we know at this time:

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the case of ProMedica, in 2004 apparently). He analyzes Caremark's information and behavior only insofar as stating (§ 23) "Dr. Hartman does not dispute that Caremark and ESI are PBMs that had knowledge of the increase in the AWP/WAC ratio." Indeed, most of Dr. Willig's analysis appeals to the existence of competitive behavior among PBMs and the discussion thereof found in the Report of Professor Berndt to this Court in the MDL-AWP matter, rather than a demonstration of what specific PBMs and TPPs actually knew.

The July 31, 2007 Plaintiffs' Supplement to the Class Certification Record examines the relevant evidentiary record in greater detail.

<sup>17</sup> The term "Pharma" is usually used to designate drug manufacturers.

<sup>18</sup> ESI-414-00001763.

<sup>19</sup> Introduced by Ms. Schechter as Slide 8 at p. 26 of the *Motion/Status Hearing*.

<sup>20</sup> Cited in part in footnote 13 of Attachment B of my March 2007 *Hartman FDB Rebuttal Declaration*, ESI-414-00001762. The "SWAT team" was to be comprised of HMS/Segment/Finance/Legal representation



- ***Situation overview/status*** - Until recently AWP changes occurred in conjunction with WAC changes. It only became apparent to ESI within the last week that AWP changes were occurring without WAC changes. ... [W]e called our vendor [FDB] and asked why. Their response was ... mergers and acquisitions ... within the drug industry [inducing] a need for equalization and standardization of the AWP. ... They also mentioned ... a government inquiry into AWP practices ... At that time we began an inquiry to ascertain the number of items and financial impact that this could have on us and our clients. ...
- ***Client Impact*** - We are currently working on this. ...
- ***ESI Impact*** – As with client impact we are trying to define the impact on our mail order as well as the impact on rebates.
- ***Industry Repercussions*** - There are many. Our entire industry is based on AWP. If the AWP becomes an unreliable factor, a pricing paradigm shift may be required. ... The network pharmacies are the big winners in the situation as their reimbursement from PBMs has been superficially increased. The client will see an increased trend in direct relation to the increase in AWP. PBM will receive additional income for their mail order prescriptions ... Drug manufacturers get an unwarranted black eye for increasing pricing that they had nothing to do with.
- ***Near-term downside/upside*** – ESI will see an increase in margin per script and rebate. The client will see an increase in drug costs. Members will pay more for % copay plans, they will meet their deductibles and caps sooner. Drug manufacturers are already up in arms over this increase. They are the ones who are most hurt by this new policy.”

13. The March 18 memo indicates that ESI realized the FDB Spread increase was for branded drugs. The March 28 email reveals not only knowledge of the impacts of the Scheme, but more importantly, implies nuanced strategic interpretations and responses to FDB’s “new policy” on Spread. The interpretations and responses raised and considered by ESI include the following:

- a) Pharmacy profits will increase for both network pharmacies (“the big winners in the situation”) and for ESI mail order pharmacy (“PBM will receive additional income for their mail order prescriptions”).
- b) “ESI will see an increase in margin per script and rebate.”
- c) The reimbursement rates paid by Class members for the relevant pharmaceuticals will increase. “The client will see an increased trend ***in direct relation to the increase in AWP***. ... The client will see an increase in drug costs. Members will pay more for % copay plans, they will meet their deductibles and caps sooner” (emphasis added).
- d) “Drug manufacturers get an unwarranted black eye for increasing pricing that

they had nothing to do with. ... [and] are already up in arms over this increase. They are the ones who are most hurt by this new policy.”

Hence, ESI clearly understood that it would benefit financially from the impacts of the Scheme, even if they did nothing to inform their client TPPs. ESI also understood that TPPs would pay higher reimbursement rates for branded drugs, **“in direct relation to the increase in AWP,”** as a result of the impacts of the Scheme.<sup>21</sup>

14. While this evidence does demonstrate that ESI “did know; that [it] knew this difference occurred [for some drugs],” it demonstrates that it took 8 months for that realization to occur. This lag seems somewhat long, given that (according to McKesson’s counsel and expert) everyone knew and the information was so public. It also demonstrates that FDB was sufficiently adept at confusing even ESI about the cause of the 5% increase. ESI believed it was due to manufacturer consolidation and pricing standardization, when in reality many manufacturers opposed the increase. ESI believed it was due in part to “a government inquiry;” it was not.

15. Given its knowledge and in light of the assertions by McKesson’s counsel and expert Dr. Willig, one would expect ESI to implement a “SWAT team effort” to immediately inform its clients about the impacts of the Scheme and its implications (§§ 12.c and 13 above); to warn its clients about the possible “new pricing paradigm shift”; and to develop and offer specific competitive initiatives to counter the impacts of the Scheme. This response is predicted by Mr. Goldman (§ 3 above).<sup>22</sup> **ESI did not do so.**

16. In Section IV below, I present and analyze the limited information ESI **actually did** communicate to its client TPPs. I demonstrate that ESI communicated to a small number of TPPs, rather than all. I demonstrate that what ESI communicated was woefully insufficient to support Mr. Goldman’s expansive assertion that “the PBMs all knew it ... [and] they told the TPPs this.”

17. Before doing so, let me examine the two other PBMs, out of “the PBMs all,” introduced into evidence by McKesson’s counsel. At page 32 of the *Motion/Status Hearing*, McKesson’s counsel states:

<sup>21</sup> These expressed understandings corroborate the alleged motivations for the Scheme and the impacts predicted by Plaintiffs. Specifically,

- a) Retail pharmacies pressured manufacturers to raise the Spread; see §§ 137 of the *Complaint*.
- b) The drug manufacturers resisted the Scheme; see §§ 137 of the *Complaint*.
- c) In the face of manufacturer resistance, retailers pressured McKesson and FDB; see §§ 137 of the *Complaint*.
- d) As a result of the Scheme, the reimbursement rates paid by TPPs for the relevant drugs will increase **“in direct relation to the increase in AWP,”** see §§ 17, 110, 126, and 151 of the *Complaint*.
- e) McKesson and FDB found it in their self-interest to succumb to the pressure; see §§ 137-138 of the *Complaint*.

<sup>22</sup> To reiterate, “Here is the point, your Honor ... Here’s only our proposition, and we show this from the PBM. We show it from what Berndt said will happen among vigorous competition among PBMs. The PBMs all knew it. They knew this difference occurred. **They told the TPPs this**” (emphasis added).

“And let me turn to the other PBMs because Mr. Berman said we have no evidence of other PBMs. If you look at Slide 17, you’ll see that Caremark put in a declaration in this case where they said they did know, and they took it into account when they renegotiated with their retailers. That enabled them to recapture the artificial gain that may have been in the system.”

18. As support Slide 17 is introduced, which quotes the Declaration of Gregory Madsen, Senior VP of Retail Services at Caremark, who acknowledges Caremark’s knowledge of the impacts of the Scheme, which was gleaned (in the last quarter of 2002) more than a year after the implementation of the Scheme:

“I understand that for branded drugs, the ‘spreads’ or ratios between WAC and AWP were historically 20% for some drugs and 25% for others. In approximately the last quarter of 2002, I learned from someone in Caremark’s finance department that the spreads on a large number of brand name drugs increased for 20% to 25%. These increased spreads were one of the factors I considered in negotiating Caremark’s contracts with pharmacies.”

However, the more detailed examination of the impacts of the Scheme found in the ESI materials is absent from the Caremark materials I have been provided. I presume that Caremark would evaluate the impacts of the Scheme upon its retail and mail-order pharmacy lines of business in much the same way as did ESI.

19. However, in Slide 17, Mr. Madsen’s assertion is limited: Caremark knew and used knowledge of the impacts of the Scheme when negotiating contracts with pharmacies. There is no admission of renegotiation with TPPs to “push-back” against the inflation, which is the primary assertion of interest here. ***As it stands, this assertion tells us nothing.*** While McKesson’s counsel asserts (continuing at p. 32 of the *Motion/Status Hearing*), “And, as Dr. Berndt said what happened, it’s then available to be negotiated back to their TPPs,” ***no evidence is presented demonstrating the results of the implied negotiations.*** While some amount of the overcharge ***may have been*** recaptured by Caremark from non-affiliated pharmacies, and while some portion ***may have been*** “negotiated back to their TPPs,” I have seen no evidence supporting either of these assertions. As a matter of economics, it is implausible without further analysis to assert that Caremark would “negotiate back to their TPPs” the overcharge earned by their affiliated mail order and retail pharmacies. There has been no evidence put forward whether these “negotiations” benefited Caremark alone; whether the negotiations benefited both Caremark and its client TPPs; or whether the negotiations were such that Caremark’s client TPPs recouped overcharges.

20. McKesson’s final PBM is Medco Health, which McKesson’s counsel introduces at p. 32 of the *Motion/Status Hearing* and Slide 18. The evidence is the following quotation from a *Drug Trend Report* (Medco Health, *Drug Trend Report*, Vol 5 (1), May 2003, p. 7).

“Much of the increase in unit costs can be attributed to inflationary increases in unit prices charged by pharmaceutical manufacturers. Based on Average Wholesale Price (AWP), drug price inflation increased 33 percent, from 4.9

percent in 2001 to 6.5 percent in 2002, a level significantly higher than in years past. Working on behalf of its clients, Medco Health was able to offset this inflation through pharmacy discounts, rebates, and increased use of the home delivery (mail) pharmacies, where unit costs are significantly lower. As a result, the net increase in unit costs for Medco Health's clients was 5.5 percent, a full percentage point lower than the increase in AWP."

21. While Medco Health may have known of the impacts of the Scheme, this document demonstrates no such knowledge. It simply observes that AWP's have been increasing over time and had increased even more rapidly in 2002. It asserts that Medco Health was able to offset "this [2002] inflation through pharmacy discounts, rebates, and increased use of the home delivery (mail) pharmacies." However, it does not provide sufficient information to evaluate whether their actions were in response to the impacts of the Scheme; whether their actions were part of the historical increase in discounts documented in my March 18, 2007 Rebuttal Declaration; or whether their actions were any more effective than in previous years. For example, in 2001, drug price inflation based on AWP was 4.9%; in 2002, drug price inflation based on AWP was 6.5%. In 2002, the net increase in unit costs for Medco Health was "5.5 percent, a full percentage point lower than the increase in AWP." In order to judge the effectiveness of Medco's competitive behavior in 2002, we need to know if the increase in unit costs "for Medco Health's clients" in 2001 was less than 4.9% and, if so, by how much. Absent that information, one cannot judge whether Medco Health responded to increasing AWP's in 2002 more aggressively than in 2001.

22. **Evidence for no other PBM is provided.** Furthermore, the evidence for the three provided is mixed; only two (ESI and Caremark) explicitly refer to the price increases induced by Spread increases. Because these two PBMs are among the largest, it is likely they had significantly better information than most other PBMs.<sup>23</sup> However, there are at least 48 more (see Attachment E) for which no evidence is presented. If, as McKesson's counsel claim "The PBMs all knew it. They knew this difference occurred;" if as Dr. Willig asserts "It is highly unlikely that the increase in the AWP/WAC ratio would remain unknown to PBMs;"<sup>24</sup> why didn't all three of their sample know? Why isn't there easily accessible evidence that many more PBMs knew? Why doesn't McKesson put forward that evidence?

23. The evidence put forward by McKesson is insufficient to support an assertion that all PBMs knew. Appeals to notions of competitive behavior without supporting evidence are insufficient to buttress an assertion that all PBMs knew.

<sup>23</sup> Dr. Willig agrees; see ¶¶ 39-47 of May 2007 Willig Declaration and his ¶ 74 of January 2007 Willig Declaration.

<sup>24</sup> At ¶ 67 of his January 2007 Declaration, Dr. Willig asserts "PBMs are sophisticated operators in the drug industry. They use their size and access to data to mediate among manufacturers, TPPs, and retail pharmacies. Therefore, it is highly unlikely that the increase in the AWP/WAC ratio would remain unknown to PBMs."

#### IV. WHAT DID THE PBMS COMMUNICATE TO THEIR CLIENT TPPS?

24. The only specific evidence presented by McKesson to support their assertion that ***all PBMs informed all client TPPs***<sup>25</sup> is the record created by ESI, as its understanding of and strategic response to the impacts of the Scheme evolved. **That is one data point!** Furthermore, while ESI is one of the big three PBMs, it is not clear that it accounts for “a third of all TPPs in the country,” as asserted by Ms. Schechter.<sup>26</sup> Data on the number of insured lives suggest that ESI accounts for less than 15% of insured lives; hence, it does not necessarily follow that ESI accounts for more than 1/3 of TPPs. The evidence proffered by Plaintiffs<sup>27</sup> indicates that this number is much smaller, approximately 26.

25. More importantly, contrary to McKesson’s counsels’ assertions,<sup>28</sup> the evidence demonstrates that the information communicated was vague and minimal, given what ESI knew. The record also demonstrates that McKesson’s counsel mischaracterize the communication.

##### A. The Information Communicated by ESI Was Vague and Unspecific

26. After the realization of the existence of impacts of the Scheme in March 2002 and the strategic assessment of its implications (discussed above in ¶¶ 12-14), ESI drafted an internal letter dated April 5, 2002,<sup>29</sup> in which ESI acknowledged the increased AWP-to-WAC ratio. I have seen no evidence that the letter was distributed earlier than April 2002 or that the letter was widely distributed. Furthermore, rather than explaining all of the issues and implications raised by the impacts of the Scheme, the letter is much less specific. A version of the letter that I have been able to review is the April 15, 2002 letter

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<sup>25</sup> According to Mr. Goldman (¶ 3 above), “They told the TPPs this. I want to emphasize that they told them that.”

<sup>26</sup> At p. 26 of the *Motion/Status Hearing*, she states ESI “sent notification to their TPP customers. That’s ***potentially*** a third of all TPPs in the country,” insinuating without supporting evidence that the letter was sent to all client TPPs (emphasis added).

<sup>27</sup> See Exhibit D.1 for the list of the 26 TPPs that received notification from ESI.

<sup>28</sup> At pp. 26-27 of the *Motion/Status Hearing*, Ms. Schechter asserts “And contrary to what Dr. Hartman assumed when he put together his formula, the PBMs actually told the TPPs about this. And in fact Dr. Berndt predicted the exact same thing would happen. ***And they didn’t just say something that vague. They were quite specific.*** The alert revealed not only that nearly half the AWP increase for the last two months was due to an increase in the spread between WAC and AWP. They also told the TPPs that they had discussed this change with FDB, who then told them that these adjustments were being made to establish a more consistent relationship, and ESI urged their clients to go out and make some changes to offset this impact” (emphasis added).

As I discuss in the text, such a communication is indeed vague and unspecific, given what ESI knew and how ESI could assist TPPs. I address this vagueness and lack of specificity when I analyze what TPPs, including TPPs that were clients of ESI, really knew in Section V below.

<sup>29</sup> ESI-414-00001754.



sent to John Frederick of PreferredOne, which reads in part (emphasis added):<sup>30</sup>

“Pharmaceutical manufacturers make price changes throughout the year. As we have documented in Express Scripts’ annual *Drug Trend Report*, for the last four years the average increase in Average Wholesale Price (‘AWP’) has exceeded 5%. The first wave of price increases typically take place in the January through February timeframe. Over the last couple of years these increases have averaged 1 to 1.5%. This year, however, the increase for this period ... is closer to 2.5%. The increase for this period also includes an adjustment to increase the difference between wholesale acquisition cost (‘WAC’) and AWP **for certain drugs**. In other words a little less than half of the total increase is due to AWP increases that are in excess of the corresponding increase in WAC. Upon our inquiry to our pricing service, First Data Bank, ... the recent AWP adjustments were made to establish a more consistent relationship with WAC. As this trend indicates, it is more important now than ever to put cost management strategies in place.”

27. If ESI really wanted to provide information that “was not vague; that was quite specific,” why not say what was in the March 18 internal memo quoted in ¶ 12.b) above and the March 28, 2003 email from Chris Macinski quoted above in ¶ 12.c)? Why not say the following? “We have noticed a significant change in the way AWP’s are calculated and provided by FDB. This change is not for certain drugs, it is for many brand-name drugs. We are uncertain about the extent and implications of the change, but we are undertaking analyses and will inform you. However, we believe that this adjustment is big for the industry; it may lead to a pricing paradigm shift away from AWP. Retailers will be the big winners here, while you, the TPPs, will be the big losers.”

28. The letter begs the following questions:

- a) If the increase in Spreads and AWP’s induced by the 5% Scheme (called “an adjustment” by ESI) were sufficiently serious that the “Industry Repercussions ... are many. Our entire industry is based on AWP. If the AWP becomes an unreliable factor, a pricing paradigm shift may be required” (¶ 12.c) above), why would this letter be so understated? The letter merely mentions that “The increase for this period also includes an adjustment to increase the difference between wholesale acquisition cost (‘WAC’) and AWP **for certain drugs**” (emphasis added).
- b) Does the use of the term “**certain drugs**” intentionally diminish possible client focus upon the broad extent and apparently severe “pricing paradigm shift”?
- c) How many drugs were subject to “an adjustment”? “Certain drugs” sounds like a few. Why not report how many drugs? Why not say many branded drugs? Why not report that the drugs in question accounted for a small percentage of all NDCs tabulated by FDB (about 1%) but accounted for a large percentage of the Top 200

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<sup>30</sup> ESI-414-00003724 and Slide 9 of Ms. Schechter’s presentation to the Court at p. 26 of the *Motion/Status Hearing*.

brand-name drugs by dollars of reimbursement (about 50%)?<sup>31</sup>

- d) When this letter states, “In other words a little less than half of the total increase is due to AWP increases that are in excess of the corresponding increase in WAC,” does it refer to all drugs or the “*certain drugs*” in the preceding sentence?
- e) ***Indeed, why were ESI employees told to share the list of impacted NDCs to a client*** “ONLY if responding to a client. You should not proactively send this list” (emphasis in original).<sup>32</sup>
- f) Why is the letter mute as to the increased profitability of network and mail order pharmacies induced by the Scheme (“adjustment”)?
- g) Why is the letter mute to the other increases in ESI profitability induced by the Scheme (“adjustment”)?
- h) Why is the letter mute as to the manufacturer resistance to the Scheme?
- i) Since PBMs generally and ESI specifically offered “to put cost management strategies in place” in the normal course of their business, why would they not specifically indicate that “new, more aggressive strategies” of a certain type should be put in place.

29. I conclude that the ***information not communicated*** by ESI to client TPPs ***was certainly more extensive than the information that was provided***. The information not provided would have been very useful, in all likelihood more useful, to the TPPs in their negotiations with ESI. And the letter does not alert a TPP to the Scheme. It does not say, as alleged, that the increase was done as a result of a joint agreement between FDB and McKesson unrelated to actual changes in price.

## **B. Why Was the Communication Vague and Unspecific?**

30. Why would PBMs such as ESI, which do compete for TPP business, not communicate fully, aggressively and in the manner posited by Dr. Berndt and Dr. Willig? The reason is simple; I have discussed it in some detail before;<sup>33</sup> I discuss it in detail in Attachment E. PBMs are not simple competitive entities, competing in one horizontal market – the market for administering TPP drug benefits. They are lines of business within more complex competitive entities with a variety of affiliated and/or subsidiary lines of business in a variety of related vertical markets, including but not limited to mail-order pharmacy and network pharmacy. Because PBMs are part of parent companies with interrelated business opportunities, particular market events present the possibility of benefiting the other lines of business at the expense of the PBM. If PBMs offered drug plan benefit management to TPPs as their sole competitive activity and if a PBM learned of the Scheme, it could use that information to compete for more TPP business, as

<sup>31</sup> These estimates are based upon FDB data at the end of 2004 and top 200 lists from Scott-Levin/Verispan data.

<sup>32</sup> ESI-414-00003906.

<sup>33</sup> See Attachment C of my September 3, 2004 Declaration in Support of Class Certification in the AWP-MDL matter before this Court.



hypothesized by Dr. Berndt and Dr. Willig and as espoused apparently by this Court.<sup>34</sup> It could use that information on behalf of its clients to renegotiate drug reimbursement contracts such that both the PBM and the client TPPs would be better off.<sup>35</sup> However, it is far from clear that it would. As I discuss in Attachment E, even that competition will be limited.

31. However, ***drug benefit plan management is not the sole competitive activity of the parent companies of PBMs. Indeed, as clarified in Attachment E, PBM revenues account for a very small percentage of revenues of the corporate entities owning PBMs.*** As made clear by the ESI internal emails, the impacts of the Scheme offered significant financial benefits to network retail pharmacies (“the big winners in the situation”) and affiliated mail-order pharmacies (“PBM will receive additional income for their mail order prescriptions”). ESI has mail-order pharmacy; Caremark had a significant position in mail order pharmacy. ESI benefited from “an increase in margin per script and rebate.” When the companies owning PBMs are offered an opportunity to increase profitability substantially on their pharmacy lines of business, ***those PBMs will not compete fiercely for TPP business.***<sup>36</sup> In particular, the largest PBMs which already have large TPP client bases, will be reluctant to forego 300% (see ¶ 14 of the Declaration) increases in profits on pharmacy sales to those existing TPP clients in order to capture, on the margin, a few additional TPPs by competing away that profit. The nuanced competition exhibited across a variety of lines of business (of which PBM is one) is sufficiently complicated to warrant a full discussion of its own. I provide that discussion in Attachment E.

32. The relevant question is not whether PBMs will compete for TPP business. The relevant question to ask is how important is the TPP business to PBMs, relative to their other profit centers? Alternatively, how aggressively will PBMs compete for TPP business when other PBM profit centers may be adversely impacted by that competition? These questions never seem to occur to Dr. Willig; these nuances are ignored.<sup>37</sup> Instead,

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<sup>34</sup> At p. 4 of the *Memorandum and Order*, “Competition among PBMs for the business of TPPs is fierce.”

<sup>35</sup> Note that in order for both the PBM and the client TPPs to be better off, the **full amount** of the overcharge would not be returned to and recouped by the TPPs. Some portion would remain with the PBMs, as its incentive to pursue the recontracting efforts. McKesson’s assertion of full recoupment by TPPs is implausible. Indeed, as I discuss in ¶¶ 35-36 below, their assertions of such recoupment is a fiction.

<sup>36</sup> Indeed, if PBM competition were as “fierce” as Dr. Willig suggests, we would not see the proliferation of litigation against PBMs undertaken by client insurers/TPPs.

<sup>37</sup> As a matter of economic and institutional reality, Dr. Willig mistakenly characterizes PBMs as competitors in a single horizontal market. Returning to ¶ 67 of his January 2007 Declaration, he asserts “PBMs are sophisticated operators in the drug industry. They use their size and access to data to mediate among manufacturers, TPPs, and retail pharmacies. Therefore, it is highly unlikely that the increase in the AWP/WAC ratio would remain unknown to PBMs. These firms track drug prices and profit by being able to move demand [from the insureds’ of TPPs] to the least cost alternative drugs.”

If PBMs’ primary competitive market was servicing TPP drug benefit plans and profiting from servicing them at least cost, they would behave as Dr. Willig conjectures. However, as he himself recognizes, in the same ¶ 67, “A critical part of that [PBM] function is to maintain and analyze drug price information including AWP and WAC. ... Knowledge from retail pharmacies, however, flows to PBMs because a

a general appeal to the power of competition is proffered as support for the assertion that all necessary information will be shared with the TPPs and that all overcharges will be recouped. This appeal is wishful thinking; it fails.

33. If the principal-agent TPP business for the PBM is less profitable than affiliated retail and mail-order pharmacy operations, and if the Scheme benefits those latter affiliated operations, the PBM will be reluctant to share the relevant knowledge of the Scheme with the TPPs. I have already cited research to this Court indicating that the TPP business is less important to PBMs than their other lines of business. For example, in Attachment C<sup>38</sup> of my March 17, 2007 Rebuttal Declaration in this matter, I discussed this issue as part of my analysis of the “principal-agent” problem arising between PBMs and client TPPs as follows:

“Here the TPPs (principals) hire PBMs (agents) to perform a variety of drug-benefit-plan management activities.<sup>39</sup> The principal (the TPP) pays an administrative fee, as incentive, to its agent (the PBM) to perform these activities. However, if the PBM earns, as incentive, *more income from other sources, such as* drug manufacturer rebates and/or payments from retail chains seeking to participate in the PBM network,<sup>40</sup> it is likely that the PBM will be less concerned with its duties to its principal (the TPP) than it will be concerned with satisfying the strategic needs of those other entities. In this case, a “principal-agent” problem arises; the PBM will not properly act to solely reflect, protect *and compete for* the economic interests of the principals (i.e., the Class members) retaining it to perform contracted activities. As a result, competitive motives and behaviors are blunted.”

These competitive motives are blunted even further when the agent (the PBM) has affiliated operations in related vertical stages of the market (retail and mail-order pharmacy) which benefit from the Scheme. The PBM must balance conflicting business

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number of PBMs own mail-order retail pharmacies.” That is, PBMs have affiliated profit lines in mail order and retail pharmacy. As ESI admits in its internal memoranda, those profit lines benefited from the Scheme. In this case, it is naïve to assert that market information gathered by PBMs that will benefit alternative lines of business would be used entirely to the benefit of TPPs. No evidence which I have seen supports this assertion.

<sup>38</sup> At ¶ 3.

<sup>39</sup> These are described in some detail in Attachment C of my September 3, 2004 Declaration in Support of Class Certification in the MDL-AWP matter.

<sup>40</sup> For example, according to Schondelmeyer and Wrobel, “Examination of the sources of revenue for PBMs reveals that PBMs make more money from manufacturer revenue than they make from employer/client fees. ***Other major sources of revenue include revenue from pharmacy discounts not passed on to the end payer.*** Some analysts have raised concerns about the potential conflict of interest faced by PBMs with more revenue from drug manufacturers [and pharmacies] than from the employer or client. ***Another potential conflict of interest results from a PBM promoting their own pharmacy (a mail order pharmacy)*** while at the same time reviewing prices and processing prescription claims of community pharmacies.” See Stephen W. Schondelmeyer and Marian V. Wrobel, “Medicaid and Medicare Drug Pricing: Strategy to Determine Market Prices,” Final Report, Abt Associates Inc., Prepared for Centers for Medicare and Medicaid Services, August 30, 2004, p. 13 (emphases added).

incentives: income from its principal-agent representation of TPPs against profits earned at retail and mail-order. ***If a PBM wanted to undertake actions that seemed to fulfill its duty as agent to its client TPPs but to do so in a fashion sufficiently guarded so as to limit understanding of what was being communicated, it would send the letter that ESI sent.***

### **C. McKesson's Counsel Misrepresent PBM Communication and TPP Responses**

34. In arguments before the Court, McKesson's counsel, Ms. Schechter, mischaracterizes the evidence concerning PBM communication, TPP responsiveness and the nature of specific drug benefit plan designs. For one extended example, at pp. 26-27 of the *Motion/Status Hearing*, she introduces Slide 9, which is the April 15, 2002 letter to Dr. John Frederick of PreferredOne. As discussed above, without any evidence of which I am aware,<sup>41</sup> she first exaggerates the extent of this communication. She then asserts, "The very next day one [Covenant Health] of the recipients of the Express-Scripts alert sought assistance from Express-Scripts to quickly move on this development and put quantity limits in place" (Slide 10).

- a) Her description of cause and effect is incorrect, and the content of the message communicated and the action taken by the supposed recipient, Covenant Health, are unrelated.
- b) While it is true that Covenant Health received a notification from ESI on April 15, one cannot conclude that from the Letter to PreferredOne. Of the 26 notifications I have reviewed,<sup>42</sup> they were not all sent on April 15. This is a minor point.
- c) More importantly, her assertion that the April 16 email from Covenant Health is an immediate response to the April 15 Alert and demonstrates effort to seek "assistance to move quickly on this development [i.e., the increase in AWP induced by the Scheme]" misrepresents the facts.
  - The assistance explicitly sought by Covenant Health was to "put quantity limits in place."
  - When the Court asked Ms. Schechter, "What do you mean by quantity limits?", she replied "Put limits in place so that they could offset the increase by limiting, with their plan design, whether or not they would pay for this particular drug or whether they would put in place generic substitutions, which they could do on many of these drugs. And so if a generic substitution is put in place, then nobody suffered an impact from the increase in that drug."

<sup>41</sup> According to Ms. Schechter (p. 26, *Motion/Status Hearing*), "Now, Mr. Berman said it only went to 24 [I have seen documentation of 26] TPPs, but that's not what the record shows. There is a declaration from Christine Macinski from ESI in the record which says that these documents are just examples. They sent notification to their TPP customers. That's potentially a third of all TPPs in the country." I have seen no evidence supporting this assertion. The evidence I have reviewed suggests that ESI sent the letter to the 26 TPPs identified in Exhibit D.1.

<sup>42</sup> See Exhibit D.1.

In fact, they may have saved money.”<sup>43</sup>

- Ms. Schechter is wrong about the meaning of quantity limits.
  - Quantity limits are built into benefit design to limit coverage of drugs that are expensive, of questionable value to the payer (i.e., the employer buying the plan), and/or for which demand is extremely responsive to price (i.e. coverage.) “Lifestyle” drugs such as Viagra are the classic example of this case.
  - I have never heard of quantity limits being used as a tool for generic substitution. I have found that quantity limits are used for a small set of drugs, not “many of these drugs,” as Ms. Schechter states.
  - As an element of benefit design, a quantity limit would not simply be slipped into a plan mid-year as Ms. Schechter suggests here as the Urgent Response to the ESI letter.
- A simple web-search of selected PBMs and TPPs define and/or describe quantity limits as follows.
  - ***Wellmark presents<sup>44</sup> its policy on quantity limits as follows:*** “Some prescriptions are limited to a specified maximum quantity. Amounts over this quantity are not a covered benefit. The following drugs have a quantity limit: [16 drugs are listed,<sup>45</sup> including such lifestyle drugs as Cialis and Viagra]. Quantity limits are in place for these drugs to ensure the medication is being used correctly and other treatments are not appropriate. Most people would not need to take these drugs more often than what is allowed. ... In rare cases, a drug may also require prior authorization in addition to the quantity limit (e.g., Viagra).”
  - ***ESI presents<sup>46</sup> its policy on quantity limits for the Department of Defense Tricare Retail Pharmacy Benefit Guide as follows:*** “Prescriptions with quantity limits [are listed under] Formulary Status ... [Under] TRICARE Mail Order Pharmacy, you can receive up to a 90-day supply for most medications. ... The DOD Pharmacy and Therapeutics Committee may set quantity limits on some medications, [for example] up to a 30-day supply for controlled substances.”

<sup>43</sup> This colloquy takes place at p. 27 of the *Motion/Status Hearing*.

<sup>44</sup> See [http://www.wellmark.com/products/pharmacy/qty\\_limits.htm](http://www.wellmark.com/products/pharmacy/qty_limits.htm), accessed 7/30/07.

<sup>45</sup> Of the 16, 8 are prescribed for the treatment of migraines; 4 for the treatment of erectile dysfunction; 3 for the treatment of pain, often related to arthritis; and 1 for the treatment of toenail fungus.

<sup>46</sup> Express Scripts website, “Department of Defense: TRICARE Retail Pharmacy Benefit Guide for Eligible Uniformed Services Health System Beneficiaries,” <http://member.express-scripts.com/static/dodcustom/pdfs/handbook.pdf>, accessed September 14, 2007.

- *ESI presents<sup>47</sup> its policy on drug quantity limits in a particular drug benefits plan as follows:* “In a continuing effort to promote quality, affordable, cost-effective health care, the ELCA health plan has adopted prescription quantity limits for certain medications. Drug quantity limits are based on dosing guidelines for most approved medical conditions.”
- *BlueCross BlueShield of Texas describes<sup>48</sup> its policy on quantity limits as follows:* “Certain drugs are limited to a specific quantity for 30 or 90 days. Some examples are: All nasal inhalers (Flonase); Agents to treat sexual dysfunction (Viagra); Migraine Medications (Imitrex); Asthma inhalers (Albuterol); Pain management (OxyContin); and Proton Pump Inhibitors (Prevacid). ... Quantity limits help ensure that you receive the appropriate amount of medication, while minimizing your health risks and encouraging cost-effective use of medications.... If circumstances require that you need more than the recommended amount of a medication, ask your physician to fax or mail a Quantity Override Request Form to Blue Cross and Blue Shield of Texas/HMO Blue Texas.”
- I know of no instance where generic substitution is the avowed aim of a “quantity limits” program. Generic substitution is induced by formulary and copay designs aimed specifically at generic substitution.
- Finally, it is unlikely that TPPs would have sought to introduce *new* generic substitution plans to “push-back” against the Scheme or recoup injury from the Scheme. PBM/TPP programs aimed at generic substitution have already been actively and substantially introduced since the mid-1990s. Hence, they would not be the first line of defense against the impacts of Scheme, even if those impacts had been understood.
- Even if, counter to the factual evidence, quantity limits could be used to induce generic substitution, the ESI letter *makes no mention of the AWP’s of generic vs. branded drugs*. The ESI letter therefore provides *no logical basis* for Covenant Health (or PreferredOne, or any TPP receiving the letter) to deduce that a program inducing greater generic substitution would be a reasonable response.
- Quantity limit programs were already being promoted by TPPs; they would have been the subject of TPP letters to their PBMs throughout the period; they were being promoted independent of increases in AWP or the Scheme.
- The savings to be derived from a quantity limit program would be identified only through a thorough and detailed analysis that would be conducted over

<sup>47</sup> See Evangelical Lutheran Church in America Board of Pensions website, “Drug Quantity Limits for the ELC, Benefits Plan: Prescription Drug Benefit,” Updated October 10, 2006, [https://www.elcabop.org/upload/documents/es\\_drugquantitylimits.pdf](https://www.elcabop.org/upload/documents/es_drugquantitylimits.pdf), accessed September 13, 2007.

<sup>48</sup> Blue Cross Blue Shield of Texas website, “Important Measures you’re your Health: Understanding Quantity Limits on Prescription Medications,” <http://www.bcbstx.com/pdf/qvtbrochure.pdf>, accessed September 30, 2007.

months. The assertion that the ESI letter, received on April 15, was such an “urgent” alert that Covenant Health was ready to institute quantity limits the next day lacks any credibility, given the business practices in this market.

- The savings induced by quantity limits would be independent of the overcharges induced by the Scheme.
- Ms. Schechter has merely concatenated two unrelated events, reception of the ESI letter and dispatch of the Covenant Health email and therefore, incorrectly concludes: “And so if a generic substitution is put in place, then nobody suffered an impact from the increase in that drug. In fact, they may have saved money” (p. 27).

d) These arguments are disjointed recitation of unrelated facts and unsubstantiated speculation. There is simply no factual record supporting these assertions; there is no logical association between the ESI letter and the asserted drug benefit plan responses.

35. Ms. Schechter continues (at p. 29) this unsupported discussion with further unsupported assertions regarding recoupment.<sup>49</sup> Again, without supporting deposition testimony, she mischaracterizes the extent to which TPPs recoup the overcharge, suggesting that renegotiation is common and that such renegotiation often leads to total recoupment. The following colloquy is illustrative (emphasis added):

“Ms. Schechter: But look at what ESI does because they say the PBMs, not only did the PBMs not know but they didn’t do anything about it. To the contrary, Express-Scripts goes out, recontracts with its pharmacies and gets the money back -- this is the recoupment point I was making -- ***gets the money back for its clients so that their impact is zero.***

The Court: ***So how many companies do you have where they actually recoup the full 5 percent?***

Ms. Schechter: Well, your Honor, we have only had –

The Court: No, I’m just saying, how many do you have evidence that did that?

Ms. Schechter: ***We need to depose Express-Scripts to know that for sure.*** We would need to look at every TPP.

The Court: Of the ones you’ve got in your pocket, how many do you have that includes everything?

Ms. Schechter: ***We don’t have claims data for more than the named plaintiffs, so I couldn’t tell you that.***

The Court: ***Did the named plaintiffs recoup everything?***

Ms. Schechter: ***I couldn’t tell you that. I don’t know. We probably have a handful, though.*** We do know, for example, that District Council 37 [DC 37] had a savings of \$1.89 million from their recontracting. I don’t have enough of the data to

<sup>49</sup> This discussion follows the content of her discussion of Covenant Health after intervening discussion of other issues.



know whether or not that eliminated it entirely.

The Court: I understand your point, and it's a good one, that recontracting was different for each person, and that's why I asked about that. ***But what about the contract you were locked into? Do you have any evidence that anyone retrospectively went back and recouped everything?***

Ms. Schechter: Well, this one right here, ProMedica. What we see with ProMedica is -- and if you go to the next slide, it shows you how they did it -- when Express-Scripts went out and said, 'Okay, I'm going to give you better discounts off of AWP now,' and they got a rate relief of 1.5 percent, they didn't just say, 'You're going to get it on those drugs that were bumped up. I'm going to give it to you on all brand-name drugs.' And so they actually were able to recoup a lot faster because when PBMs gave rate relief as this was going through the process, they didn't limit it to the drugs that had a spread increase. ***They gave rate relief across the board. That meant that they were able to recoup the loss that they suffered. And the only way for us to know this is to quantify that. I mean, for sure, the question of damages is a management nightmare because you're going to have to quantify this for every TPP,*** but I think it drives home the impact point that classwide impact can't be shown here. Going back to your question about should I just hold a liability trial --

The Court: ***So you have one company essentially where you can show that it wasn't impacted at all because they recouped everything?***

Ms. Schechter: ***Your Honor, we may have others. Off the top of my head right now, I know that we have at least ProMedica. But, again, we haven't even had the chance to take ProMedica's deposition.*** We got this document --

The Court: ***No, you're at the tail end of this.***

36. This colloquy demonstrates that McKesson has no factual evidence:
- a) There is no evidence (that I have seen) that demonstrates that any TPP ***got its money back so that the impact is zero.***
  - b) Their assertions are ***unsupported by any real data analysis or deposition testimony***, even though McKesson has had extensive time to perform such analysis and to take such depositions. Their assertions seem to be based upon an undergraduate-textbook notion of competitive markets that simply is not appropriate for the complexity of the competitive entities being analyzed.
  - c) McKesson has put forward no claims data to support their strong assertions about recoupment. They allude to savings for DC 37, but Dr. Willig's analysis of DC 37 does not support their assertion. Indeed, as I discuss in ¶ 39.b) below, his testimony contradicts this assertion. It does not support the assertion of complete recoupment; it does not support the assertion of any recoupment. ***DC 37 was not able to increase its discount off AWP; its discount was reduced over the Class period.***
  - d) When all else fails and the Court asks whether McKesson has at least one company "where you can show that it wasn't impacted at all because they recouped everything?", they refer to ***a 2007 email*** from ESI to ProMedica in



which ESI *claims* that ProMedica was given “rate relief” in 2004 which recouped the impact of the overcharge. No supporting analysis of recoupment is provided. No supporting analysis regarding the reliability of the self-serving claims of this email is presented. This email is not evidence. I discuss the ProMedica evidence in ¶¶ 41-45 below.

- e) Simply put, while McKesson has proffered evidence supporting the existence of the Scheme, they have put forward no tenable evidence that any TPP actually recouped any portion of the overcharge.

## V. WHAT DID TPPs ACTUALLY KNOW?

### A. Overview

37. McKesson’s counsel and expert, Dr. Willig, have made strong assertions about TPP knowledge:

- a) McKesson’s counsel assert (cited in my ¶ 3 above):

“It’s not nobody knew about the differential went up because *they all did. They all knew, they all were told...* [because] ... the AWP and the WAC are published. ... Here is the point, your Honor ... *The PBMs all knew it. They knew this difference occurred. They told the TPPs this. I want to emphasize that they told them that.* Just the way Dr. Hartman said they never would do that, they would never tell them that, they told them that, just the way Dr. Berndt said they would do” (emphasis added).

- b) Dr. Willig asserts and speculates:

“There is ample evidence that a number of TPPs were aware of the change in the AWP/WAC ratio or the artificial inflation in AWP ... To understand how these market players were likely able to uncover the change in the AWP/WAC ratio quickly, I analyzed drug prices for some of the largest NDCs over time. In Table 3, I list the annual AWP increases for four [sic] high-dollar volume NDCs, Lipitor 10MG, Plavix 75MG, Prevacid 30MG, Wellbutrin SR 150MG from January 1999 through December 2005.<sup>50</sup> All of these drugs had increases in their AWP/WAC ratios from 1.20 to 1.25 in January 2002, coincident with an increase in WAC. ... *It is difficult to believe that an AWP increase of this magnitude would go unnoticed* by those who specialize in monitoring drug prices” (¶¶ 64-66, January 2007 Willig Declaration, emphasis added);

“Vertical integration in PBM and pharmacy functions also affects sophistication, knowledge and leverage. Table 1 illustrates the large variation in vertical integration just among the named plaintiffs and other TPPs for which I have information. There are TPPs that are employers and unions ... there are insurance

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<sup>50</sup> I discuss the importance of these four drugs in alerting TPPs of the increased Spread induced by the Scheme in ¶ 51 below, when I return to the insights of Dr. Berndt regarding the importance of being unimportant.

companies who provide fully insured products to employers and unions ... that are insurance companies that vertically integrate into various PBM functions. ... Select Health and Humana are both examples of TPPs on Table 1 that are vertically integrated into PBM functions. These TPPs are highly sophisticated” (¶ 46 and Table 1, May 2007 Willig Declaration).

38. Without a more complete analysis of what TPPs actually did know, these assertions fail. If all TPPs knew, as McKesson’s counsel assert, McKesson’s counsel should have no trouble supporting this important assertion; they can just depose any TPP. McKesson’s economic case relies heavily upon the assumption that all, or substantially all, TPPs knew of the increased Spread. Given that reliance for their economic theories, they must support that reliance with deposition testimony. Likewise, Dr. Willig’s theory of impact and injury relies heavily upon the assumption that competition among informed PBMs would inform TPPs, and that any effects of the increased Spread thereby be competed away. He assumes through assertion that “these market players were likely able to uncover the change;” that “it is difficult to believe that an AWP increase of this magnitude would go unnoticed;” and that “these TPPs are highly sophisticated.” These assumptions are easy to confirm; he must merely ask for and review the necessary deposition testimony. ***In fact, however, McKesson’s counsel introduce no deposition testimony***, that I have seen, to support their assertions.

## B. The Evidence

39. Dr. Willig’s Table 1 (cited above) presents a variety of information for the following TPPs: BCBS of Montana, ConnectiCare, DC 37, Harvard Pilgrim, Humana, John Deere Health Care, New England Carpenters, Pirelli, SBC Communications, Select Health, Teachers and Teamsters. One category/source of information that he neglects in his Table 1 and McKesson’s counsel neglect in their arguments to the Court is **the testimony of these TPPs, testimony that contradicts their assertions**. I have developed this fact in Attachment D to my March 18, 2007 Rebuttal Declaration in this matter (included as Attachment C.II), where I cite TPP deposition testimony demonstrating that:

- a) **BCBS of Montana** did not track AWP or changes in it over time, for individual drugs or groups of drugs.<sup>51</sup>
  - Ms. Wong of BCBS Montana testifies under oath that she ***does not track AWP or its changes***.
  - ***Dr. Willig ignores that testimony***. As he does consistently, he appeals to simplistic theories of competitive behavior while ignoring evidentiary fact. Having introduced BCBS Montana and Ms. Wong, he asserts (at ¶ 40 of his May 7, 2007 Declaration) BCBS Montana is a TPP “which specialize[s] in the provision of health care benefits. It is their business to be knowledgeable of the specifics of the health care industry in an effort to provide the lowest prices to their customers, employers, unions, and individuals. To do this, they

<sup>51</sup> Deposition of Tina Wong, November 14, 2006, pp. 191-192.

spend time and resources examining market trends and conducting research on the health care markets. ... On April 22, 2002, Express Scripts sent a letter to Tina Wong and Dr. Roy Arnold ... informing it of FDB's change in the AWP/WAC ratio for some drugs. ... In addition, Tina Wong testified that BCBS Montana made changes to member co-pay levels in response to increases in drug prices."

- ***Since Ms. Wong says that BCBS Montana does not track AWP, Dr. Willig's assertion that it tracks "market trends ... [and] health care markets" has no relevance or merit***, since AWP market trends are precisely what must be tracked under Dr. Willig's assumption. Indeed, his assertion distorts the evidence.
  - ESI did send a letter to Ms. Wong and Dr. Arnold; I understand it was attached to an email. The letter is as vague as the versions introduced and discussed above.<sup>52</sup> ***There is no deposition testimony introduced by Dr. Willig that Ms. Wong or Dr. Arnold reviewed that letter or incorporated it into a strategy of recontracting and recoupment. Why is that, given the importance of that issue to their economic theory?***
  - Dr. Willig refers to testimony by Ms. Wong that "BCBS Montana made changes to member co-pay levels in response to increases in drug prices" (May 2007 Willig Declaration, ¶ 40). This assertion is disingenuous; it has little relevance to the issues of this matter. Changes in member copays occurred for many, perhaps most, TPPs over the 1990s through the present. As introduced by Dr. Willig, this change had no direct effect of mitigating the effects of the Scheme.
  - In footnote 39 of his May 7, 2007 Declaration, Dr. Willig states "The named plaintiffs provided depositions and written affidavits detailing their lack of knowledge of the alleged scheme. Dr. Hartman summarized some of this material in March Hartman Declaration, Attachment D. Dr. Hartman apparently infers from these that all TPPs had similar lack of knowledge of the alleged scheme. The evidence that I have reviewed does not support that inference."
  - We have both reviewed the evidence for BCBS Montana. While the Court must make the final decision, I contend that a fair reading of this evidence for BCBS Montana demonstrates that my interpretation of TPP knowledge regarding AWP and the knowledge communicated by the ESI letter is correct and that Dr. Willig's interpretation is incorrect.
- b) **DC 37** was unaware of the changes to FDB's AWP and the increase in the spread between WAC and AWP.<sup>53</sup> This deposition testimony is supported by a formal declaration (reviewed in draft) by Ms. Esperon, who stated under oath (at

<sup>52</sup> ESI-414-00003677-78.

<sup>53</sup> Deposition transcript of Rosaria Esperon, November 6, 2006, p 144. Ms. Esperon is the Administrator of the Health and Security Plan for DC 37.

¶¶ 7-11; emphases added):

- “While we were aware of an increase in the overall expenditures for prescription drugs by DC 37, we were unaware of an increase in the WAC-AWP ratio in 2002. No one at DC 37 had access to the FDB database that reflects FDB’s published AWP. No one at DC 37 has access to AWP and/or WAC information on a drug-by-drug basis for the drugs that are included in DC 37’s prescription drug benefit.
- If DC 37 had known that the increase it observed in the overall expenditures for prescription drugs was due, at least in part, to the increase in the WAC-AWP ratio, *i.e.*, the scheme, DC 37 would have demanded that our reimbursement for pharmaceuticals provided to members of the Union be reduced accordingly. Any negotiation with our PBM would have started by eliminating the resulting increase in reimbursement by DC 37 that resulted from the scheme.
- Because DC 37 was unaware of the scheme, it was not in a position to ‘protect’ itself from the increase in reimbursement that resulted from the scheme. Prior to April 12, 2002, DC 37’s PBM was National Prescription Administration, Inc. (‘NPA’). Under DC 37’s contract with NPA in place in 2002, ***DC 37 reimbursed NPA at an annual computed average rate of AWP minus 16% for named brand drugs at retail.*** ... ESI also indicated that they would be providing a deeper discount off of AWP than DC 37 received under its arrangement with NPI. ***During this meeting ESI indicated that the discounts it would be providing DC 37 for named brand drugs at retail was at or near AWP minus 20%.***<sup>54</sup> ESI never indicated that the AWP it would be providing discounts off of was inflated as a result of the scheme described above. It is unclear to me whether ESI ever provided the promised 20% discount off of AWP on these drugs. ***In a later agreement between DC 37 and ESI, covering the period of January 1, 2004 through June 30, 2006, ESI contracted to provide DC 37 with a discount of 15% off of AWP for brand named and generic drugs at retail.***
- If we had known about the scheme we would have negotiated deeper discounts to eliminate any increase in reimbursements that resulted from the scheme. The scheme, if revealed, would not have been ‘factored in,’ it would have been completely removed from the equation and any discounts sought after the effects of the scheme were eliminated would have been a reaction to true increases in prices caused by inflation and other factors independent of the scheme. Because the scheme was unknown to us we did not have the opportunity to eliminate its effects on DC 37’s reimbursements.”

<sup>54</sup> However, the contract implementing this discount was never signed. See deposition of William Kiefer pp.146, lines 6-10 “Q. Were you aware that DC 37 never actually signed a contract with ESI until shortly before they terminated their relationship with ESI in 2006? A. I believe that I do recall hearing that, yes.”

In light of this testimony, McKesson's counsel's assertion<sup>55</sup> to the Court that DC 37 saved money "from their recontracting" has no basis in fact. Dr. Willig admits as much.<sup>56</sup> Indeed, the *discount off AWP declined for DC 37 over 2002 to 2004 through 2006, from (AWP – 16%) to (AWP – 15%), contrary to the data supporting Dr. Willig's econometric analysis.*

- c) **Harvard Pilgrim Health Plan** had no knowledge of "any increase in the spread between WAC and AWP" (that is, impacts of the "Scheme").<sup>57</sup>
- d) **Humana** is described by Dr. Willig as "highly sophisticated" and "one of the largest health insurers in the United States. It had over 11 million insureds and had revenues of \$21.4 billion in 2006. Humana operates its own PBM, it does its own contracting with drug manufacturers, it has its own P&T committee that sets the Humana formularies, it contracts directly with pharmacies and it purchases pricing data from FDB and Medi-Span."<sup>58</sup> Yet Humana had no knowledge of the Scheme between McKesson until 2004, when it discovered there had been an increase in the spread for "some reporting services." They were overcharged as a result and would have tried to mitigate the impact of the Scheme had they known.<sup>59</sup>
- e) **Philadelphia Federation of Teachers Health and Welfare Fund (PFTHW)** had no knowledge of the increased spreads; they received no information about the increased spreads from ESI (their PBM); they did not renegotiate the terms of their contract with ESI from 2002 through the present; they were unaware of the large increases in AWP over the period; they did not change material terms of their contract despite language allowing such changes.<sup>60</sup>
- f) **Pirelli Armstrong Retirees Medical Benefits Plan** had no knowledge of the increase in the spreads subject to the Scheme and had no access to data informing it of the increase in spreads and the Scheme.<sup>61</sup>
- g) **Select Health**, which Dr. Willig also characterizes as "highly sophisticated,"<sup>62</sup> did

<sup>55</sup> Ms. Schechter asserts that there were savings at pp. 27-30 of the *Motion/Status Hearing*, as cited in my ¶ 34 above.

<sup>56</sup> While McKesson and Dr. Willig (see ¶ 48 of the Willig January 2007 Declaration) make much ado about the discussions between ESI and DC37 to increase the discount off AWP, "DC 37 and ESI never reached agreement on the enhanced retail discount" (*Ibid.*, footnote 58).

<sup>57</sup> See the deposition transcripts of Andrea Grande (pp. 47 and 102) and James T. Kenney (pp. 90-91), October 11, 2006.

<sup>58</sup> May 2007 Willig Declaration, ¶¶ 46 and 43.

<sup>59</sup> See the deposition transcript of William Flemming, November 9, 2006, pp. 160, 274 and 278, cited in Attachment D of my March 2007 Declaration.

<sup>60</sup> See the deposition transcript of Arthur Steinberg, October 18, 2006, pp. 55-6, 144-45, 151-52, and 162-65.

<sup>61</sup> See the deposition transcript of Earl Seymour (pp. 76-77) and Donny Dowlen (pp. 133-35), October 19, 2006.

<sup>62</sup> May 2007 Willig Declaration, ¶ 46.

not track the relationship between AWP and WAC, even though it does base reimbursement rates on AWP. Therefore, it could not have noticed the change in the spread induced by the Scheme.<sup>63</sup>

- Even though Select Health does not track the relationship between AWP and WAC, Dr. Willig notes that Eric Cannon has stated, “track national trends; we track our own internal trends; we track utilization mix; we track inflation values for particular products, particular drug classes. We look at contracting trends across the country, and from that I mean our people contracting on an AWP-minus basis, what types of dispensing fees do they use. We track – we’ve been tracking the recent changes with the federal government in reimbursement of injectable drugs as it relates to ASP pricing; we track, to a lesser degree, trends related to WAC, and that’s simply because our payment methodologies are based off of AWP. We do collect rebates on some items based on WAC, but we do not track that very closely.”<sup>64</sup>
- Dr. Willig further notes that the health care organization that owns Select Health (Intermountain Health Care) also owns 23 retail pharmacies and that Eric Cannon testified that Select Health uses information from these 23 retail pharmacies:
  - “Select Health is in a unique position, in that Intermountain Health Care, of which we are part of, owns and manages 23 retail pharmacies. Those discussions, on a regular basis, are with the pharmacy director or pharmacy manager for those 23 retail stores, and they are more – I wouldn’t call them formal discussions – they would probably be more considered a discussion topic over lunch. Is there room to decrease reimbursement, or they may say, gee, if we have to accept another contract at this rate, we’re not going to make any money.”<sup>65</sup>
- Somehow, Dr. Willig concludes that this testimony supports the assertion that Select Health uses the retail store information “to make sure they are getting the best and lowest drug prices for their members.”<sup>66</sup>
  - I find no evidence supporting that conclusion in this testimony. It is mere conjecture.
  - Specifically, Eric Cannon has lunch with the parent company of Select Health, which also owns a chain of retail pharmacies. He “wouldn’t call them formal discussions – they would probably be more considered a discussion topic over lunch.”

<sup>63</sup> See the deposition transcript of Eric Cannon, October 11, 2006, pp. 89, 142-144 as cited in ¶ 41 of the May 2007 Willig Declaration.

<sup>64</sup> May 2007 Willig Declaration, ¶ 41.

<sup>65</sup> *Ibid.*, ¶ 41.

<sup>66</sup> May 2007 Willig Declaration, ¶ 41.



- They discuss whether there “is room to decrease reimbursement, or they may say, gee, if we have to accept another contract at this rate, we’re not going to make any money.” It is not clear whose reimbursement rate is being decreased; it is not clear who might not be making any money.
- In summary,
  - It is clear that Select Health is part of a vertically integrated entity that includes PBM, TPP, and pharmacy services, including retail pharmacy.<sup>67</sup>
  - Select Health may be large and according to Dr. Willig “highly sophisticated.” *However, Eric Cannon admits he did not track the information required to know of the increased Spread of the Scheme.*
  - Select Health was part of a larger business entity, another part of which profited from the Scheme. As I have discussed above at ¶¶ 30-33 (and Attachment E), this fact would determine the extent to which Intermountain would share retail price information with Select Health. Before informing Eric Cannon of the Scheme and its impact on reimbursement, Intermountain Health Care would consider the profits that would be lost if the effects of the Scheme were recontracted away. The retail pharmacy would want to know just what Eric Cannon is telling them – “If we have to accept another contract at this rate, we’re not going to make any money.”
  - This fact may explain why Eric Cannon did not know of the Scheme or did not track WAC.
- h) **The Teamsters Health and Welfare Fund of Philadelphia** had no knowledge of the Scheme.<sup>68</sup>
  - Dr. Willig seems to agree with my assessment of this deposition testimony, acknowledging<sup>69</sup> “Many TPPs are employers or unions, who pay for the prescription drug benefit offered to their employees and members. These types of TPPs generally do not have sophisticated knowledge of the pharmaceutical drug market and rely on PBM competition to obtain lower prices for their employees and members. The Teamsters Health & Welfare Fund of Philadelphia (‘Teamsters’), a named plaintiff in this litigation, is an example of this type of TPP. ... The administrator of the Teamsters, William J. Einhorn, testified in the AWP MDL that he believed, until sometime in 2000 or 2001 that the AWP was the actual average of the prices charged to pharmacies or mail order facilities by the drug wholesaler or manufacturer. It was not until someone billed the Teamsters for a drug at a price less than AWP that he began to realize that AWP was a list price and not a price anyone paid.”

<sup>67</sup> May 2007 Willig Declaration, Table 1 and see footnote 65 above.

<sup>68</sup> See the deposition transcript of William Einhorn, October 6, 2006, p. 106.

<sup>69</sup> May 2007 Willig Declaration, ¶¶ 39 & 44.



- i) **ConnectiCare** is “a TPP based in Connecticut and the Northeast that provides health benefits to employers and individuals and, according to their website, has 240,000 members. According to ESI documents, Jeff Casberg, ConnectiCare’s Director of Pharmacy, learned”<sup>70</sup> of the increased FDB Spreads prior to April 2002 from unspecified sources and confirmed its existence with an AstraZeneca representative.<sup>71</sup>
- ConnectiCare is the single TPP which discovery materials suggest was actively monitoring spreads. Specifically, on April 7-8, 2002 emails from Don Harris and Jeffrey Casberg state:
    - “Below is a off shoot of the topic we have been discussing ... an unusual increase in RX AWP due to in part a change in the ‘spread’ between AWP and Direct or WAC pricing. ... Bottom line is that AWP prices have increased recently at a increased rate.”
    - “The weighted average increase in AWP for our own organization’s top 200 most widely prescribed single-source branded drugs was a whopping 6.65% over the past year. ... Of particular note ... are the following agents ... Lipitor ... Prilosec ... Wellbutrin ... Allegra.”<sup>72</sup>
  - ConnectiCare was aware of the impacts of the Scheme without information provided by its PBM, ESI. On April 15, 2002, Jeffrey Casberg received the ESI form letter regarding the increase in AWP overall and the increase in the Spread “for certain drugs.”
  - The most recent discovery document I have been able to review suggests that ConnectiCare remained confused about the cause and impact of the Scheme. “In the continuing effort to sort out what is happening ... I created the tabs for ‘our’ top 50 drugs ... In retrospect, one thinks that MR AWP (DC) would have caught on to this long ago and busted tham [*sic*] ....whomever them is.”<sup>73</sup>
  - While ConnectiCare demonstrates an understanding of the existence of the impacts of the Scheme, I find no discovery materials demonstrating a strategic response to recontract or recoup the economic injury.

40. The discovery materials I have been able to review for other TPPs not included in Dr. Willig’s Table 1 reveal the following.

<sup>70</sup> Quotation from ¶ 42 of the May 2007 Willig Declaration. Note that he misstates the source of ConnectiCare’s knowledge of the impacts of the Scheme. According to ConnectiCare/NEC 00027, AstraZeneca (AZ) confirms his understanding from unnamed sources “of a pricing strategy change related to the spread.”

<sup>71</sup> ESI-414-00001794 – E-mail from Everette Neville to Stuart Bascomb about ConnectiCare finding out about FDB AWP increase.

<sup>72</sup> ConnectiCare/NEC 00028-29

<sup>73</sup> ConnectiCare/NEC 00074-75.

a) In a May 10, 2002 memo from Bruce Butler to Mark Stevens of **BCBS of Massachusetts** in re “AWP Increases – Follow Up,” Mr. Butler states the following:

- “Several weeks ago” (apparently in mid-to-late April), ESI notified BCBSMA “regarding the AWP increase.” I understand that the initial notification was similar to that presented above. I also understand that BCBSMA asked for further information and clarification.<sup>74</sup>
- The methodology for calculating AWP used by FDB and MediSpan are “very consistent, resulting in little variation between the AWP’s established by each.” This finding corroborates my opinions set forth in ¶¶ 13-14 of my December 20, 2006 Updated Declaration in Support of Class Certification.
- “The unusual increase in AWP noted by ESI in its email to us on 4/16/02 appears to have been generated as a result of pressure from the government (most likely Medicare/Medicaid).” ... [However], “FDB has still not confirmed the reasons underlying the price increases. ESI obtained the insight about governmental pressure from other industry sources they have.” These statements corroborate the fact that ESI’s information was strategically misleading, as discussed above.
- “Similar increases in AWP are being seen in the MediSpan/Facts&Comparisons pricing as well.”
- “Based on the limited amount of time people have had to react to this development, however, it is too early to tell how this will bear out. Per Bill Mincy, the parties that benefit from the increases being seen are the manufacturers, pharmacies and wholesalers. ... [The plans and PBM’s are the parties that will be negatively impacted over the short and long term horizons as a result of these changes.]”
- ***These statements reveal that BCBSMA did not fully comprehend the impacts of the Scheme for the short and long term, contrary to McKesson’s assertions.***
  - The Scheme was not the result of government pressure.
  - The manufacturers did not generally benefit from the increase; in many cases, they opposed the increase.
  - The PBMs were not negatively impacted by the Scheme. ESI explicitly recognized it would profit from the impacts of the Scheme; it’s presence in retail/mail-order pharmacy (“the big winners”) increased the amount of that profit (¶¶ 12-15 & 27-29 above).
- This memo demonstrates that a highly sophisticated TPP like BCBSMA learned much less from ESI than McKesson’s counsel and Expert continue to assert they learned.

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<sup>74</sup> See Exhibit D.1.

- Initially, BCBSMA was not told many of the facts that ESI knew – disinformation by omission. ESI provided identification of impacted NDCs for BCBSMA on April 15, 2002, but only after BCBSMA asked for additional information.<sup>75</sup> Indeed ESI's disinformation by omission was strategically generalized. ESI employees were told to share the list of impacted NDCs to a client "ONLY if responding to a client. You should not proactively send this list" (emphasis in original).
- BCBSMA was lied to – disinformation by commission. BCBSMA felt it had to wait for more information, information that ESI already had: "It is still too early to tell if the worst case will fully play out or if it will be mitigated by changing attitudes on the part of the government, either on its own or as a result of pressure from the PBM, plan and general consumer communities. We have expressed our desire to ESI that this situation be closely monitored to ensure we both keep up to date."
- Apparently, however, BCBSMA was not kept up to date, as they requested of their agent, ESI. In a December 4, 2006 email to Timothy Fitzgibbons *in re* "From ESI's 10Q," Matthew Connell states "***If memory serves me correctly, we didn't get any relief when FDB AWP arbitrarily went up by the 5% in question back in 2002***" (emphasis added).
- It is likely that BCBSMA would have reacted differently and more competitively if it had been told explicitly by ESI that ESI benefited from the increased Spreads.

41. Two other TPPs have been introduced by McKesson's counsel – **Covenant Health** and **ProMedica**. I have discussed above (¶¶ 33-36) the misrepresentation put forward by Ms. Schechter regarding the facts of Covenant Health's knowledge of the impacts of the Scheme, its response to that knowledge and its ability to recoup the inflated drug costs it paid as a result of the Scheme. The second TPP introduced by Ms. Schechter<sup>76</sup> is ProMedica. She asserts that in response to the Scheme,

"What we see with ProMedica is -- and if you go to the next slide, it shows you how they did it -- when Express-Scripts went out and said, 'Okay, I'm going to give you better discounts off of AWP now,' and they got a rate relief of 1.5 percent, they didn't just say, 'You're going to get it on those drugs that were bumped up. I'm going to give it to you on all brand-name drugs.' And so they actually were able to recoup a lot faster because when PBMs gave rate relief as this was going through the process, they didn't limit it to the drugs that had a spread increase. They gave rate relief across the board. That meant that they were able to recoup the loss that they suffered."

42. This assertion seems to be based upon the analysis of Dr. Willig,<sup>77</sup> who refers to a **2/27/07 email** from Michael Chen of ESI to Neeraj Kanwal of ProMedica responding to

<sup>75</sup> The source of the next set of quotes is ESI-414-00003780-84.

<sup>76</sup> At pp. 30-31 of the *Motion/Status Hearing*.

<sup>77</sup> May 2007 Willig Declaration, ¶¶ 18-19.

ProMedica's questions about the proposed FDB Settlement. Note that Dr. Willig has not quoted the email completely; I highlight the portion that Dr. Willig quotes. Mr. Chen writes (at 2:24 pm):

"Hi Dr. Kanwal

Thanks for the info. I will pass it on. It kind of explains why everyone is so hot about this topic but doesn't actually Hartman doesn't really go into detail on the 15% discount rate or why it exists in the first place. The fact is that AWP is not a credible reference and that PBMs negotiate a discounted rate based on market supply and demand is not a part of his paper. ... In 02 the industry put in a price shock, as a result we had to go out and recontract with pharmacies to get the money back to you... that is the basis for the analysis I sent you a while back. In 04 we got you rate relief in the amount of about 1.5%. That was well above the .7-.9% impact we forecasted back then of the 4% increase. Ordering the previous analysis was risky to me. (nobody else took this approach) I was not sure if the data I got was going to make matters worse but I put my faith in the PBM business model and rolled the dice. Fortunately, it turned out that we did reduce the impact to Paramount in 04, most likely by squeezing the pharmacies out of the margin they previously benefited from and moving some money around too. That's why the pharmacies are refusing to accept the adjustment today. To me, the crux of this argument revolves around whether you think pharmacy pricing is an efficient market. Without PBMs it surely wouldn't be. But with PBMs I think there is enough efficiency to address the above issues (albeit not real time like the stock market). I don't think adding another price shock is the answer to this issue."

Nor has Dr. Willig quoted Mr. Chen follow-up email at 2:42 pm, in which he writes:

"Hey Dr. Kanwal

I think when you take the utilization of the 8500 drugs and the 4% and spread it across the entire DIV it amount to we gave you 1.5% relief across all your medications not just the 4% of the targeted brands. That's why the impact in 02 was only .7-.9%. I asked about the impact of the 8500 drugs. Our internal teams are aware that you want this. My problem is that I don't know what's in the bucket yet. I am trying to come up with some kind of estimate for you but I am at a loss. That's why you don't have this data yet."

43. Dr. Willig interprets that portion which he cited as follows. "Mr. Chen's e-mail illustrates a number of points that contradict Dr. Hartman's claims. First, TPPs apparently had knowledge of the increase AWP/WAC ratio in 2002. Second, ESI responded to pressure by squeezing the excess margin out of retail pharmacies. Third, the increase in the discount to the TPP was greater than the amount of the artificial increase in AWP, suggesting retroactive compensation from the PBM to the TPP even if the change in reimbursement rates occurred later than 2002. This is precisely the type of competitive conduct that both I and Dr. Berndt expect will happen, and which Dr. Hartman denies would or did occur."

44. Dr. Willig's interpretation fails for the following reasons.

- a) Mr. Chen is clearly writing this email to a client who, like “everyone [who] is so hot about this topic [i.e., the First DataBank Settlement as analyzed by Hartman],” wants answers about how ESI protected it from the Scheme back in 2002.
  - b) Mr. Chen’s response begins immediately with the distortion that “The fact is that AWP is not a credible reference.” The Court knows this is not a credible statement, particularly in reference to TPP reimbursement for brand name SADs. I have demonstrated that AWP is a credible reference for reimbursement for PADs in the AWP MDL litigation. Most Defendant experts and Dr. Berndt agreed.
  - c) Mr. Chen has clearly signaled that he is on the defense about the alleged Scheme and the settlement agreed to by FDB.
  - d) From that point of departure, Mr. Chen makes assertions *in 2007* about what happened in 2002, five years before. Specifically, how ESI indeed did “recontract with pharmacies to get the money back to you.”
  - e) However, according to Mr. Chen, “[m]y problem is that I don’t know whats in that bucket yet. I am trying to come up with some kind of estimate for you but I am at a loss.”
  - f) ***I find this testimony suspect and unreliable*** given the apparent displeasure revealed by ProMedica and other TPP clients of ESI “who [are] so hot about this topic;” given Mr. Chen’s obvious readiness to distort the truth; given the fact that he and his “internal team ... don’t know whats in the bucket yet; [and are] trying to come up with some kind of estimate for you but I am at a loss;” given the fact that he feels compelled to argue that PBM competition is good for ProMedica, stating “To me, the crux of this argument revolves around whether you think pharmacy pricing is an efficient market. Without PBMs it surely wouldn’t be;” and finally given the fact that he is against the settlement – “I don’t think adding another price shock is the answer to this issue.”
45. Mr. Chen’s emails certainly are insufficient to come to the strong conclusions reached by Dr. Willig:
- a) There is absolutely no factual evidence in Mr. Chen’s emails that “TPPs apparently had knowledge of the increase AWP/WAC ratio in 2002.” ***ProMedica is approaching ESI in 2007 to find out whether and exactly how they were protected from a Scheme made apparent to them by the FDB Settlement Agreement.***
  - b) There has been no evidence put forward that “ESI responded to pressure by squeezing the excess margin out of retail pharmacies.” Mr. Chen merely asserts that such a response occurred, and he’s still “trying to come up with some kind of estimate for you but I am at a loss.”
  - c) There has been no hard evidence put forward that “the increase in the discount to the TPP was greater than the amount of the artificial increase in AWP, suggesting retroactive compensation from the PBM to the TPP even if the change in reimbursement rates occurred later than 2002, ... as I [Dr. Willig] and Dr. Berndt expect.”

- d) Perhaps all of these competitive benefits did indeed occur. However, ***the only evidence I find for ProMedica is a self-serving email from a nervous provider to an angry client.*** The details in this email would not be acceptable as demonstrating a hypothesis of behavior in an undergraduate economics course. Dr. Willig needs to work with ProMedica claims data to prove his conjecture offered as assertion.

## VI. SUMMARY

46. In summary, McKesson's arguments are logically implausible, unsupported by the evidence and a distortion of the record.

47. If the nature of economic competition among PBMs and TPPs were as aggressive and responsive to information as asserted by McKesson's counsel and expert, McKesson would have been extremely foolish to have undertaken the Scheme. If, as asserted by McKesson's counsel and Dr. Willig, the Scheme did not and could not work, why would McKesson undertake the efforts to implement it? Is McKesson simply that ignorant of the structure of the markets and the conduct and performance of the competitive entities in the market? I find no evidence supporting that assertion. Dr. Willig does not make that argument.

48. All entities providing PBM services during the Class Period (most of which are identified in Attachment E of this Declaration) are asserted to have known of the Scheme or the adjustment in the AWP-WAC Spread. However, McKesson can prove that two knew of the increase in Spread – not that they knew of the alleged Scheme. Of those two, McKesson provides evidence that only one (ESI) offered limited information regarding what it knew to some (very few; certainly not all) of its client TPPs. And a close reading of the information provided by that ESI letter demonstrates that it was strategically vague. There is a reason for this. The increase in the AWP-WAC Spread benefited the PBMs (either directly or through their corporate parent) to a greater extent than did revelation of the Scheme to their client TPPs. I address this issue explicitly in Attachment E.

49. McKesson's counsel has asserted that the TPPs all knew, because they were told. However, counsel bases this assertion on an assumption of an undergraduate notion of competition. Counsel has put forward no evidence supporting this assertion. I find the evidence supports the conclusion that only one TPP knew that the AWP-WAC Spread had been increased.

50. At ¶ 38 of his May 2007 Declaration, Dr. Willig asserts:

“Dr. Hartman's methodology depends on a uniform response from TPPs to the alleged scheme. Dr. Hartman's uniform response is zero response for all class members for a period of over 3.5 years. Rather than addressing the evidence I provided in the January Willig Report on TPP variation, Dr. Hartman relies on his observation that the TPPs are uniform in their lack of specific knowledge of the alleged scheme as support for his factual conclusion of a uniform zero response to the alleged scheme. A conclusion that all TPPs lacked knowledge of the alleged scheme ignores the evidence that TPPs exhibit vast differences in key



characteristics leading to variation in their market responses to the alleged scheme (even without specific knowledge of the alleged scheme itself). The principle dimensions of variation in TPP characteristics that I identified in the January Willig Report are listed below. These characteristics are not independent of each other. For example, the degree of vertical integration and a TPP's size are likely correlated with knowledge and sophistication."

Based upon the evidence put forward in this Attachment, I respond as follows to Dr. Willig's assertions.

- a) My methodology ***does not depend*** upon a "uniform ... zero response for all class members for a period of over 3.5 years." My methodology merely assumes TPP behavior that is documented by real world data. Specifically, using Dr. Willig's data, I demonstrated in my March 2007 Declaration that TPP responses in contract negotiations (for discounts off AWP and for dispensing fees) were the same in the actual and but-for worlds. Dr. Willig's econometric analysis in his May 2007 Declaration attempting to undermine my analysis of his data fail, as I demonstrate in Attachment F. Furthermore, I corroborate this conclusion more completely using claims and transactions data in Attachment F.
- b) Dr. Willig incorrectly asserts "Dr. Hartman relies on his observation that the TPPs are uniform in their lack of specific knowledge of the alleged scheme ... ***rather than addressing the evidence*** I provided in the January Willig Report" (emphasis added).

However, ***rather than addressing evidence on what TPPs actually knew (which is the real issue here)***, the evidence Dr. Willig presented was evidence "on TPP variation." I do not deny the variations to which Dr. Willig appeals. However, evidence "on TPP variation" is relevant only to the extent that it demonstrates a cognizable impact upon the ability of TPPs to have known of and pushed back against the impacts of the Scheme. Dr. Willig has not put forward such a showing. He has cited many, quite varied TPPs; he had the chance to review the depositions of many TPPs. As I have demonstrated above, the evidence supports a finding that only one of those TPPs articulated an explicit realization that the AWP-WAC Spread had been increased. That is not enough to support an assertion that the increased Spread was defeated through market-wide recontracting and recoupment.

- c) Finally, Dr. Willig asserts "These characteristics [of variation] are not independent of each other. For example, the degree of vertical integration and a TPP's size are likely correlated with knowledge and sophistication." I agree. Indeed, to the extent that those TPPs in his Table 1 are "highly sophisticated ... and vertically integrated into PBM functions ... [such as] Select Health and Humana" (his ¶ 46), they are also vertically integrated into pharmacy services (retail and/or mail-order). If these larger TPPs/PBMs were more likely to have known of the Scheme, they were also more likely not to have attempted to defeat it, since they benefited from it at the pharmacy and at the PBM level. I have discussed this principal-agent problem above and do so in greater detail in Attachment E.



51. Dr. Willig and McKesson have pointed to four particular drugs with particularly large increases in AWP during the first year of the Scheme, arguing that “[i]t is difficult to believe that an AWP increase of this magnitude would go unnoticed by those who specialize in monitoring drug prices.”<sup>78</sup> This conjecture fails.

- a) Dr. Willig does not present, for comparison, drugs *not* subject to the scheme that also had comparable increases in AWP, increases which could not be taken as a signal for the Scheme.<sup>79</sup>
- b) Dr. Willig does not explain how those professionals “monitoring drug prices” ***could differentiate among drugs signaling the Scheme*** (Appendix A) ***and those not signaling the Scheme*** (non-Appendix A); see footnote 79.
- c) Dr. Willig appeals to Dr. Berndt’s assertions about competition. However, he neglects Dr. Berndt’s insight about why the costs of prescription pharmaceuticals generally have risen more rapidly than other health care costs – “The Importance of Being Unimportant.” As this Court knows, Dr. Berndt hypothesized<sup>80</sup> that because drug reimbursements accounted for a relatively small percentage of all health care costs (5-8% of all health care expenditures), they would receive less of a focus of those managed care professionals monitoring all health care costs, including drug prices.
- d) As has been aggressively argued by McKesson’s counsel, the drugs subject to the Scheme were a small subset of all drugs.<sup>81</sup> Hence, the price impacts of the

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<sup>78</sup> At ¶¶ 64 – 66 of Dr. Willig’s January 2007 Declaration, he presents the changes in AWP for Lipitor 10 mg (13.5%), Plavix 75 mg (16.9%), Prevacid 30 mg (11.5%) and Wellbutrin SR 150 mg (14.3%). The quote comes from ¶ 66.

<sup>79</sup> AWP increases for a variety of top-200 non-Appendix-A drugs during the Class Period that were comparable to increases for the four that Dr. Willig presents in his Table 2 (January 2007 Declaration) include, Zocor 5 mg, 20 mg, 40 mg and 80 mg (10.1%), Accutane 10 mg (15%), Prograf 1 mg and 5 mg (11%) and Skelaxin (10%). In order for Dr. Willig to assert that drug price increases for his four drugs would have been noticed by “those who specialize in monitoring drug prices” and would have been interpreted as a signal for the Scheme, he must explain the following:

- Did “those who specialize in monitoring drug prices,” notice similar increases in these non-Appendix-A drugs?
- Did they take these increases as signals of the Scheme, even though they were not?
- Since these drugs were not subject to the Scheme, how did “those who specialize in monitoring drug prices” differentiate between large increases in Appendix A drugs and non-Appendix A drugs?

Without the ability to discriminate between large AWP increases in Appendix A and non-Appendix A drugs, it was simply impossible for “those who specialize in monitoring drug prices” to draw any inference about the Scheme from the increases which Dr. Willig cites.

<sup>80</sup> See Ernst R. Berndt, “The U.S. Pharmaceutical Industry: Why Major Growth in Times of Cost Containment?” *Health Affairs*, 20(2), 2001.

<sup>81</sup> In a colloquy before the Court at pp. 28-29 of the *Motion/Status Hearing*:

THE COURT: By the way, you just taught me something I didn’t know. We’re only talking about branded? ... So the bump-up from 20 to 25 percent did not happen in the pure generics?

Scheme were more likely to go unnoticed for the Appendix A drugs, since their unimportance had to be more important than the unimportance of all drugs.

52. While introducing into the record substantial conjecture regarding competition, variation and the diffusion of knowledge, at the end of the day McKesson has introduced little factual evidence as support. McKesson has put forward evidence that only two PBMs knew of the impacts of the Scheme; that only one of those two warned a small subset of its client TPPs; and that its warning was remarkable for what it did not say. McKesson has put forward evidence that only one TPP knew of the impacts of the Scheme. McKesson has cited many TPPs and several PBMs. However, they have taken very few, *if any*, depositions to support their very aggressive conjectures about these TPPs and PBMs. They have had ample opportunity to do so. This Court has recognized McKesson's failure to produce the supporting deposition testimony. If McKesson's positions were supported by the facts, they certainly would have taken the depositions necessary to produce that support. But they have not taken the necessary depositions; instead, they have mischaracterized the facts:

- a) There is ***no evidence*** that "nobody [at Covenant] suffered an impact from the increase in that drug. In fact, they may have saved money."<sup>82</sup>
- b) There is ***no evidence*** that "Express-Scripts goes out, recontracts with its pharmacies and gets the money back -- this is the recoupment point I was making -- gets the money back for its clients so that their impact is zero."<sup>83</sup>
- c) There is ***no real evidence or deposition testimony*** that "District Council 37 had a savings of \$1.89 million from their recontracting." Indeed, Counsel admits "I don't have enough of the data."<sup>84</sup>
- d) There is ***no real evidence or deposition testimony*** that "Well, this one right here, ProMedica. What we see with ProMedica is -- and if you go to the next slide, it shows you how they did it -- when Express-Scripts went out and said, 'Okay, I'm going to give you better discounts off of AWP now,' and they got a rate relief of 1.5 percent, they didn't just say, 'You're going to get it on those drugs that were bumped up. I'm going to give it to you on all brand-name drugs'" And so they actually were able to recoup a lot faster because when PBMs gave rate relief as this was going through the process, they didn't limit it to the drugs

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MS. SCHECHTER: There was no bump-up in generics, and in fact it did not even happen on all brand-name drugs. It was less than half. This is a discrete set of drugs available to these TPPs.

THE COURT: Half of all branded drugs?

MS. SCHECHTER: No. I think it was far less than half. But if you look -- because they all happened at different times, it would depend when you looked. At the end of the three-and-a-half-year period, it was something less than half, but at the beginning it was obviously far less than half. It may have been 10 percent or 20 percent.

<sup>82</sup> *Motion/Status Hearing*, p. 27.

<sup>83</sup> *Motion/Status Hearing*, p. 29.

<sup>84</sup> *Motion/Status Hearing*, p. 30.

that had a spread increase. They gave rate relief across the board. That meant that they were able to recoup the loss that they suffered.”<sup>85</sup>

- e) Each of these assertions suggested a deposition to be taken. Each reflects an opportunity of another deposition not taken.<sup>86</sup>

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<sup>85</sup> *Motion/Status Hearing*, pp. 30-31.

<sup>86</sup> Plaintiffs’ Counsel has confirmed to me that there have been no depositions taken for Covenant or ProMedica.

**EXHIBIT D.1****ESI CLIENT NOTIFICATION AS SUMMARIZED BY PLAINTIFFS' COUNSEL****A. Clients who received notice only that markups had increased**

<b>ESI client</b>	<b>Notification</b>	<b>Discussion of Increase</b>
1. Adventist	ESI-414-00003744-45, April 13, 2002 e-mail from Jennifer Chase (ESI) to Marianne Scriven w/attachment re AWP increase	n.a.
2. Altius Health Plan	ESI-414-00003679-82, April 22, 2002 e-mail from Karen Abe (ESI) to Robert Jaramillo (Altius) w/ attachment re AWP increase	n.a.
3. Blue Cross Blue Shield of Montana	ESI-414-00003677-78 ,April 22, 2002 e-mail from Karen Abe (ESI) to Tina Wong and Roy Arnold, BCBSMT w/attachment re AWP increase	n.a.
4. Blue Cross Northeastern Pennsylvania	ESI-414-00004087-88 April 8, 2002 e-mail from John Lyon (ESI) to F. Koronkiewicz, BCNEP w/attachment re AWP increase	n.a.
5. BJC Healthcare	ESI-414-00004035-36, April 15, 2002 e-mail from Erin Conley (ESI) to Samia Nasr (BJC) w/attachment re AWP increase;	n.a.
6. Carilion Health Plan	ESI-414-00003892-93 April 12 e-mail w/ attachment re AWP increase from Pamela Earnhardt (ESI) to Rome Walker (Carilion);	n.a.
7. Care Partners	ESI-414-00004037-38 April 15 letter from Erin Conley to Dr. Ackerman, incorporating AWP increase message	n.a.
8. Cascade Comprehensive Care	ESI-414-00003687-88 April 22 e-mail w/ attachment re AWP increase from Karen Abe (ESI) to Brad Cummings (Cascade);	n.a.
9. Christianacare	ESI-414-00001868-69 April 15 e-mail from Erin Conley (ESI) to Ricciardi w/ attachment re AWP;	n.a.
10. Covenant Health	ESI-4 14-00004107- 14 April 15 e-mail w/ attachment re AWP increase from Erin Conley (ESI) to Harry Goldenberg (Covenant), follow-up requesting estimate of impact;	n.a.

<b>ESI client</b>	<b>Notification</b>	<b>Discussion of Increase</b>
11. Evergreen Health	ESI-414-00003890-91 April 12 e-mail w/ attachment re AWP increase from Pamela Earnhardt (ESI) to Kathy Warner (Evergreen);	n.a.
12. Healthcare Inc.	ESI-414-00003901-02 April 12 e-mail w/ attachment re AWP increase from Pamela Earnhardt (ESI) to Deborah Ratcliff (Healthcare);	n.a.
13. Ventura County Health Care Plan	ESI-414-00003683-84 April 22 e-mail w/ attachment re AWP increase from Karen Abe (ESI) to Lita Catapang, Larry Keller and Richard Ashby, MD (Ventura);	n.a.
14. Western Carolina	ESI-4 14-00003896-97 April 12 e-mail w/ attachment re AWP increase from Pamela Earnhardt (ESI) to Myrna Harvey (Western);	n.a.
15. West Virginia Public Employees Insurance Agency	ESI-414-00003733-34 April 8 e-mail w/ notice of AWP increase from Barry Rosenthal (ESI) to Phil Shimer (WVPEIA);	ESI-414-00004149-53 emails between Barry Rosenthal (ESI) and Phil Shimer (WVPEIA) about how client can get on the ETI distribution list for notifications like these; Shimer thinks the manufacturers are responsible for the increases and asks how he can track the specific results of this increase in future. E-mail chain does not include a response from ESI.

ESI client	Notification	Discussion of Increase
Unknown TPPs	<p>e-mails w/ attachment re AWP increase:</p> <p>April 22, 2002 from Karen Abe (ESI) to Holly Trautman &amp; Kris Micklaus ESI-414-00003685-86;</p> <p>April 13, 2002 from Jennifer Chase (ESI) to Raj Kabali (KHPC) ESI-414-00003750-51 (e-mail receipt at ESI-414-00003740); to Ginny Kula (Fallon) ESI-414-00003748-49 and to Basem Shebli (NHP) ESI-414-00003746-47;</p> <p>Undated from Kim (?) (ESI) to Dale Bultermeir, ESI-414-00003705-06;</p> <p>April 12, 2002 to multiple client recipients from Andrew Shim (ESI) ESI-414-00003963-64;</p> <p>April 9, 2002 from Janelle Ensrud (ESI) ESI-414-00003695-96; and from Kim Becker (ESI) ESI-414-00003730;</p> <p>April 16, 2002 from Jason Dohm (ESI) to Edwin Hedblom and Mike Anderson w/attachment re AWP increase ESI-414-00004101-02;</p> <p>April 12, 2002 from Julie McLaughlin (ESI) to multiple client recipients ESI-414-00004007-08;</p> <p>April 15, 2002 from Kristine Carpenter (ESI) to Sandy Osborne (flcities.com)</p>	n.a.

**B. Clients who received an analysis of affected drugs**

<b>ESI client</b>	<b>Notification</b>	<b>Discussion of Increase</b>
16. Connecticare	ESI-414-00004133-38 April 15, 2002 e-mail from Jeffrey Casberg (Connecticare) to Mary Ptacek (ESI) responding to attachment re AWP increase; Connecticare/NEC 00006-10 from Mary Ptacek (ESI) to Jeffrey Casberg (Connecticare)	ESI-414-00001794-95 March 19, 2002 internal ESI e-mail incorporating a portion of an earlier e-mail from Jeff Casberg (Connecticare), who is angry that ESI did not alert him of the increased AWP's sooner.
17. Neighborhood Health Partnership	ESI-414-00003894-95; ESI-414-00003787-3839; ESI-414-00004209-62 April 12, 2002 e-mail w/attachment re AWP increase from Pamela Earnhardt (ESI) to Dan McKendry (Neighborhood); May 9, 2002 detailed analysis of impact on drug-by-drug basis;	n.a.
18. PreferredOne	ESI-414-00003717-21 April 15, 2002 e-mail attachment re AWP increase from Kent Wuflestad (ESI) to John Frederick (Preferred) & chart of affected drugs;	n.a.
19. Promedica Health System and unidentified others	April 12, 2002 e-mail from Julie McLaughlin (ESI) to unidentified clients ESI-414-00004103-05	response from Keith Trettin, Promedica requesting list of affected drugs and their corresponding increases;
20. Schaller Anderson	ESI-414-00001870-74	April 15, 2002 e-mail response from Erin Conley (ESI) to Lynn S. at Schaller Anderson, providing list of affected NDCs.
21. Sierra Health Services	ESI-414-00003671-76 May 13, 2002 e-mail w/ attachment re AWP increase and attached list of affected NDCs from Jeffrey Legg (ESI) to Darren Sivertson (Sierra)	



**C. Clients who engaged in further discussion re markup increase**

<b>ESI client</b>	<b>Notification</b>	<b>Discussion of Increase</b>
22. Blue Cross Blue Shield of Massachusetts	unknown	ESI-414-00003905- 12; ESI-414-00004263-64 April 12, 2002 internal ESI e-mail relating to e-mail and phone communication with BCBSMA re AWP increase; April 15 internal e-mail to Gary Shramek, BCBSMA with AWP increase announcement and attached list of products that had an AWP increase without a corresponding WAC increase; ESI-4 14-00003954 May 20,2002 internal e-mail stating that BCBS would like to discuss FDB AWP increases and what ESI is doing about it; BCBSMA MCKESON-0014-32 (April 2002 e-mail exchanges with ESI re increase)
23. Capital Blue Cross	ESI-414-00003708-09; April 15, 2002 e-mail from Kent Wuflestad (ES I) to MyNgoc Dang-Nguyen (capital) w/attachment re AWP increase;	ESI-414-00003711-16 summary of follow-up conversation, estimate of effect on plan;
24. MDNY Healthcare	ESI-414-00003742-43; April 13 e-mail w/ attachment re AWP increase from Jennifer Chase (ESI) to Cheryl McAndrew and Ron Perron (MDNY); ESI-414-00003741 is the e-mail receipt;	ESI-414-000054-57 Request for more information from MDNY;
25. Partners Health Plan of NC	ESI-414-00003903-04; April 12 e-mail w/ attachment re AWP increase from Pamela Earnhardt (ESI) to Julia Steen (Partners);	ESI-414-00003887-88; ESI-414-00003898-99 e-mail exchange between Steen and Earnhardt
26. Schaller Anderson		ESI-414-00001870-74 e-mail response from Erin Conley (ESI) to Lynn S. at Schaller Anderson, providing list of affected NDCs.

**ATTACHMENT E**

## ATTACHMENT E

## COMPETITION

## I. MCKESSON'S PARADIGM OF COMPETITION IGNORES MARKET REALITIES

1. McKesson would like the Court to believe that the alleged fraud had no impact on the Class because competitive forces quickly eliminated any windfall conferred by the inflation of published AWP. In particular, McKesson's counsel argued as follows:

"I want to rest on this proposition: When you get to the issue of impact, the question is, and you know this about the PBMs, the 800-pound gorillas: There is vigorous competition among them. Dr. Hartman, he may be smart, but he's wrong about the absence of vigorous competition. Dr. Berndt is correct. They are going to pass that money back to the TPPs, sure as shooting, just as Dr. Berndt said they would, and that's the final point."<sup>1</sup>

2. In essence, McKesson asserts that PBMs compete so aggressively, or so "fiercely,"<sup>2</sup> for TPP business that they could not afford to retain, or to allow the retailers in their networks to retain, the windfall profits that resulted from the alleged fraud by FDB and McKesson.

3. The notion that competition will chase out all excess profits may be appropriate for a commodity market, such as steel or agricultural products, but is wholly inappropriate to the markets at hand. To explain why PBM competition does not dissipate the profits that PBMs and retailers earn as a result of inflated AWP I appeal both to economic theory and empirical evidence.

4. From a theoretical perspective, there are several key aspects of PBM competition that together constrain the competitive performance of the market. First, the PBMs and their client TPPs that are most informed and capable of competing are typically large buyers; each set has some market power. This implies that the relationship between the TPPs and the PBMs is one of bargaining rather than a competitive market solution where the PBMs are "price takers". Moreover, this bargaining is undertaken in an environment of asymmetric information that favors the PBMs. Any analysis and conclusion about the impact of the fraud based on competitive market reasoning is therefore at odds with standard economic theory.

## II. BARGAINING MODEL UNDER ASYMMETRIC INFORMATION

5. The competitive market logic that McKesson would like the Court to accept is as follows: buyers (here TPPs) shop on the basis of price and only need to know the price at which the seller offers the product (or service) and competition among sellers should drive prices down to long-run average costs. ***This reasoning is not correct in***

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<sup>1</sup> Motion/Status Hearing, p. 48.

<sup>2</sup> Memorandum and Order, p. 4.

***bargaining models that better describe the relationship between TPPs and PBMs.***

In a Nash or Roth-Nash model of bargaining, for example, the “reservation” position (the market position a party could achieve if no agreement were reached) is relevant to determining the outcome of a bargain. Here, if a TPP bargaining with a PBM believed the PBM were forgoing profits of X by not striking a deal, the outcome would be different than if the TPP thought the PBM were forgoing profits of 10X. In particular, the TPP would bargain more aggressively if it thought the PBM had more to lose. Thus, to the extent that the level of overall profits that a PBM will earn on a contract is unobservable, the PBM can negotiate a more favorable contract, and even in the presence of competition, can earn substantial margins. ***Thus, it is in the PBMs self-interest to keep unobservable, or to hide, an increase in profits due to a particular event or set of events, when those profits are being earned at the expense of TPPs, which is the case here.***<sup>3</sup>

6. McKesson’s counsel further claim that the TPPs would have offset the sudden increase in AWP through other features of the contract (in particular, increased discounts); this assertion is also flawed. If PBMs operated in a “fiercely” competitive market, a “participation constraint” (e.g., a zero, or fixed profit constraint that would be necessary to induce the PBM to sign the contract) would indeed imply that higher net payments in one part of a contract would be compensated for by lower payments in another.

7. In a bargaining situation, this is not true. A new source of hidden profits, as alleged in this matter, would effectively change the bargaining results of the two parties; it would alter the division of the surplus between the two parties in bargaining (using the Roth-Nash model described above). Therefore, McKesson’s actions to increase the spread to retailers would not be compensated for by discounts elsewhere but instead will result in higher net payments by TPPs (and harm to Class members).

8. The foregoing theoretical discussion of bargaining matches closely the institutional realities of the PBM market. Generally, TPPs hire PBMs through a request for proposal (RFP) process to undertake a task on their behalf – to manage their pharmacy benefit. While the TPPs can observe what their contracted rates are as a function of AWP as well as the total amount they are spending once the contract is in place, they cannot observe numerous dimensions of the tasks undertaken by the PBMs. For example, TPPs cannot observe the magnitude of rebates (or other payments) that the PBM earns from pharmaceutical manufacturers related to formulary status and market share of various brand name drugs, nor can they observe how aggressively the PBM promotes generic substitution. Likewise, unless the TPPs somehow knew how to track AWP and WAC prices over time for the drugs at issue, they could not observe the alleged AWP inflation resulting from the Scheme. ***Discovery materials in this matter demonstrate that very few TPPs track AWPs and WACs in this fashion.***<sup>4</sup> In light of

<sup>3</sup> This fact is admitted by ESI internal strategic documents, presented at length in Attachment D, ¶¶ 12-14: “The client [TPPs] will see an increased trend [cost] in direct relation to the increase in AWP. ... The client [TPPs] will see an increase in drug costs. Members will pay more for % copay plans, they will meet their deductibles and caps sooner.”

<sup>4</sup> See Attachment D, ¶ 39.

the small percentage of total health care spending at issue and the numerous other factors that might push monthly drug spending up or down, even a sophisticated TPP would have had a difficult time determining whether such an observed increase was part of general health care spending growth, the reflection of new drug launches or seasonal increases in utilization. With thousands of drugs and millions of claims, TPPs faced an enormous monitoring problem concerning PBM and retailer behavior.

9. Another institutional feature of the PBM service market that causes a departure from the frictionless competitive ideal held out by McKesson is the fact of switching costs. There are fixed costs associated with putting out an RFP, evaluating bids, and in the event of a switch, disseminating new information to members and establishing protocols for electronic data interchange. PBM contracts are therefore typically long term, which softens any price competition that might arise between PBMs. This notion of competition is analogous to that observed in physician markets, where doctor-patient relationships inhibit patient willingness to shop around for better prices or quality. Such “monopolistic” competition, as it is referred to in the economics literature, permits PBMs (like physicians) to maintain high profit margins even where there is a low level of market concentration.

### III. PBM PAYMENTS, HENCE INCENTIVES, ARE DIRECTLY LINKED TO AWP

10. The second theoretical reason to doubt that PBM competition could defeat the alleged fraud is the manner in which PBMs are paid. As understood by this Court, the allowable amounts public and private insurers reimburse PBMs for branded pharmaceuticals are related formulaically to AWP. As a result, PBMs can profit *in their pharmacy benefit management line of business* from increased AWP as follows.

- a) PBMs negotiate contracts with third-party payers (TPPs) and with retailers regarding reimbursement rates paid **by** TPPs and paid **to** retailers. The PBMs are the middlemen and benefit from that position. These negotiated reimbursement rates are tied to the AWP (or another list price formulaically related to AWP).
- b) The difference between what PBMs pay retailers and what they are paid by TPPs is the “retail spread,” which is a function of AWP. Suppose, for example, that a PBM reimburses its retailers AWP-15% and is reimbursed by a TPP at AWP-13%. In this hypothetical case, the retail spread is 2% of AWP.
- c) As a result, PBMs benefit from any increase in AWP – the higher the AWP of a drug, the larger the absolute dollar spread. Therefore, all things equal, PBMs will have an incentive to allow AWP inflation to go unnoticed by the TPPs.

11. More importantly, the calculations above reflect payments to an independent PBM for drugs dispensed through their retail network pharmacies. However, many PBMs, particularly the largest PBMs that were the most likely to know of the impacts of the Scheme, are often divisions of health care industry conglomerates, which own PBMs, mail order and retail pharmacies. ***When a PBM is affiliated with a mail-order pharmacy and/or a retail pharmacy (e.g., ESI, Caremark and Medco Health; see Table E-1), the PBM affiliate earns the entire retail margin increased by the Scheme***

***and faces the same incentives as the retailers who conspired to induce and perpetuate the alleged fraud.***

#### **IV. EMPIRICAL EVIDENCE ON PBM COMPETITION AND COMPETITIVE OUTCOMES**

12. The theory described above and framed in the context of key institutional features of the PBM market is supported by the empirical evidence. I describe four major categories of evidence that definitively controvert the assertion that PBMs compete to reduce TPP spending on prescription drug spending.

##### **A. The Changing Composition and Nature of Services Offered by PBMs**

13. In a recent report in *Managed Care Magazine*, one observer described the evolution of PBM services and competition as follows:

“Initially, the goal of the PBM was to simplify the administration of benefits for health plan members and to provide some cost-management services. ... In the early 1990s, as electronic point-of-sale (POS) claims processing became prevalent, PBMs began to shift their dependence on revenue from claim processing to other sources, including manufacturer rebates, selling data to manufacturers, and selling mail order and retail drugs. PBMs found that health plans and employers were more interested in lower administrative fees, because the result of pharmacy-cost reduction appeared to be too difficult to measure. This practice created a price war among PBMs for business from large health plans and resulted in a perception of POS pharmacy claims as a commodity....Gradually, the PBM industry shifted to aggressive strategies of seeking revenues from alternative sources to compensate for selling benefit administration services at lower costs. PBMs that could not buy or build mail order capabilities quickly turned to other revenue sources. These included the sale of claims data to drug manufacturers and repricing of the retail network, known as spread pricing (fees gained through continual negotiation of lower rates with the pharmacy network that are not passed on to the health plan or employer). Today, revenue from POS claims processing provides little to no margin for PBMs.”<sup>5</sup>

14. The quotation clearly identifies those PBM functions subject to competition, perhaps even “fierce” price competition – the vigorous competition for claims processing and other administrative services. However, the “price war among PBMs for business” is not a competition on the margin of total pharmacy benefit costs as McKesson would suggest, but only on the narrow margin of administrative fees “because the result of pharmacy-cost reduction was too difficult to measure.” The inability of health plans to

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<sup>5</sup> See: Steve Martin, “PBM Industry Today: Who's Managing Drug Costs?”, *Managed Care Magazine*, Dec. 2001, <http://www.managedcaremag.com/archives/0112/0112.pbmfuture.html>, accessed August 29, 2007.

accurately measure a PBM's reduction in pharmacy cost makes it impossible for this to be the basis for the same degree or type of competition.

## B. Changing Market Structure and Conduct

15. In spite of this business evidence, McKesson still argues that PBM conduct is *competitively "sufficient,"* based in part upon the analysis of Dr. Berndt and indirectly the FTC.<sup>6</sup> However, *reliance upon a single FTC report is risky*, since other FTC studies have come to the opposite conclusion. For example, the FTC has opined elsewhere that PBMs are characterized by a lack of sufficient competition and a lack of transparent information.<sup>7</sup> This latter FTC opinion is certainly more in tune with the business realities identified above (¶¶ 13-14) than is the FTC study cited by Dr. Berndt.

"Competitive concerns have arisen in the PBM market – a highly concentrated industry in which the four largest firms hold about a combined 80% market share. The market for full-service PBM providers capable of bidding on Medicare contracts is even more concentrated. Moreover, concentration in the market has increased substantially over the past decade. Substantial costs have prevented any successful entry into the PBM market for quite some time, and substantial switching costs create obstacles for plan sponsors to change PBMs.

The situation is one in which PBMs can act opportunistically – easily increasing prices or decreasing service. Indeed, the Federal Trade Commission (FTC) placed the two largest PBMs – Merck and PCS – under regulatory consent orders to prevent opportunistic conduct that would harm consumers.<sup>8</sup> The FTC found [among other things] that 1) there was a national market of PBMs with very few competitors; 2) PBMs had the ability and incentive to engage in exclusionary conduct; [and] 3) there was the potential for collusion among PBMs....

PBMs consistently decline to provide systematic and complete payment information to their plan sponsors."

If the FTC is a reliable authority on PBM market structure, conduct and workable competition, earlier opinions by the FTC stating that PBMs are not competitive should be given weight equal to those FTC opinions suggesting that competition is sufficient.

16. While I have noted above that lack of concentration does not, in the presence of switching costs, necessarily yield competitive behavior, it is nonetheless of interest to examine this dimension of PBM market structure. Table E.1 presents information for the top 10 PBMs, their corporate identities and their market shares over 2002 to 2005. Table

<sup>6</sup> At ¶ 162 and footnote 213, Dr. Berndt in his February 2005 Report to this Court claims that "the FTC has taken a strong position believing that competition among PBMs is sufficient."

<sup>7</sup> David A. Balto, "Competitive Concerns and Price Transparency in the PBM Market," *Update Journal of the Food and Drug Law Institute*, September/October 2003, p.35-36.

<sup>8</sup> Eli Lilly, 61 Fed. Reg. 31, 117 (FTC July 31, 1996); Merck & Co., 63 Fed. Reg. 46,451 (FTC Sept. 1, 1998).



E.1 also identifies the top 50 PBMs in 2002. Table E.1 demonstrates that the concentration of the top 10 increases somewhat with mergers and acquisitions. The sum of the market shares of the top 10 increases from 72.6% in 2002 to 76.1% in 2005.

17. More importantly, the horizontal mergers, which have increased the market concentration of the top 10 modestly, have been accompanied by considerable vertical integration over the past decade. Particular concern has been expressed over PBMs becoming vertically integrated with mail order or retail pharmacies.<sup>9</sup> Table E.1 identifies where possible all horizontal and vertical mergers and acquisitions of relevance.

### C. Sources of PBM Revenues and the Nature of Competition

18. The vertical consolidation reflected in Table E.1 is corroborated by data on sources of revenue that PBMs report publicly. Figures E.1 and E.2 display the sources of revenue for Medco Health Solutions (Medco) and Express Scripts, Inc. (ESI). For Medco, net revenues associated with retail sales is the largest source of revenue, followed by mail order. Combined, net revenues associated with product sales are approximately 100 times larger than revenues obtained through service fees (e.g., to client TPPs). Moreover, client (TPP) service fees are only about half of all service fees, with the remainder derived from pharmaceutical manufacturers. Similar patterns are apparent in the ESI data, where service fees represent less than 1% of net revenues. ***Given the enormous base of product-related revenues relative to other sources of revenues, it is simply not credible to suggest that PBMs would be moved to dissipate the alleged markup (of approximately 4%) on drug reimbursement and the resulting increase in profit of “more than 3 times the profit as before.”***<sup>10</sup>

<sup>9</sup> For one recent and telling example, in “CVS, Caremark to Merge, Create Drug Giant -- Analysts question whether \$21b deal will aid consumers,” *Boston Globe*, November 2, 2006, Jeffrey Krasner states the following:

“CVS Corp. of Woonsocket, R.I., the nation’s largest drugstore chain, said it plans to buy pharmacy-benefit manager Caremark Rx. Inc. of Nashville in a \$21 billion all-stock deal, creating a drug distribution powerhouse. But analysts wonder whether the merged entity will use its purchasing clout to benefit consumers. ‘Caremark and CVS combined have the power to negotiate better prices from the drug manufacturers. The question is: Will they pass those savings on to consumers?’ said Hussain Mooraj, life sciences research director at AMR Research in Boston. ‘If you’re a payer for healthcare, you’ve got to wonder if you’re going to be getting as good a deal with CVS’ as with other stores, said Richard Frank, Professor of Healthcare Policy at Harvard Medical School. ‘I’d think twice about doing business with them.’ .... Pharmacy-benefit managers are drug industry middlemen who negotiate prices and supply drugs to large group of beneficiaries such as health plans, employers, and unions. Traditionally, [when they were independent of mail order and retail pharmacies] they have worked to cut the cost of drugs supplied by chains like CVS. ... [With the merger], Caremark gives CVS a large mail-order pharmacy business. ... CVS has grown rapidly through acquisitions. In 2004, it acquired about 1,200 Eckerd drugstores from that chain’s parent, JC Penney Co. This year, it bought more than 700 stores from the Albertson’s grocery chain. It has 6,200 stores in 43 states.”

Going forward, the profits earned by these substantial mail order and retail pharmacy organizations from TPP payments certainly will be balanced against the amounts that the PBM can earn from these same TPPs. ***Returns to pharmacy will certainly blunt competitive behavior of the PBM (Caremark) on behalf of its client TPPs.***

<sup>10</sup> *Memorandum and Order*, p. 8 (emphasis added).

19. The lack of transparency that has characterized PBM financials and payer concerns about conflicts of interests inherent in the PBM business model precipitated Federal and State lawsuits directed at major PBMs including Medco and ESI.<sup>11</sup> Following a settlement of these matters, Medco released some additional information regarding sources of revenue and profits. Medco's data show that even after the litigation (2004) it retained 40.5% of rebates.<sup>12</sup> A recent FTC analysis using confidential data on a sample of PBMs found similarly high average rebate retention rates with several companies retaining significantly more than half of rebates. PBMs ability to retain such a large share of rebates suggests that PBMs do not in fact compete away excess profits from obscured revenue streams.

#### D. Measures of PBM Profits

20. A final source of confirmation that PBMs did not eliminate the harm to TPPs from the AWP inflation comes from the PBMs' own reckoning of the impact the outcome of this litigation might have on profitability. In its 2006 Annual Report, ESI noted the likely negative impact on profit margins that would come from FDB's possible reduction of AWP – both in its mail order business and on the retail pharmacy side. ***If reversing the fraud would reduce retail and mail-order profits, then by simple logic it must be true that the Class was harmed when the AWP's were inflated – and continued to be harmed until the point in time at which the inflation was removed.***

*“Changes in industry pricing benchmarks could materially impact our financial performance.*

Contracts in the prescription drug industry, including our contracts with retail pharmacy networks and with PBM and specialty pharmacy clients, generally use certain published benchmarks to establish pricing for prescription drugs. These benchmarks include AWP, average manufacturer price and wholesale acquisition cost. Most of our client contracts utilize the AWP standard.

Recent events have raised uncertainties as to whether payors, pharmacy providers, PBMs and others in the prescription drug industry will continue to utilize AWP as it has previously been calculated or whether other pricing benchmarks will be adopted for establishing prices within the industry.

Specifically, in the recently announced proposed settlement in the case of *New England Carpenters Health Benefits Fund, et al. v. First DataBank, et al.*, Civil Action No. 1:05-CV-11148-PBS (D. Mass.), a civil class action case brought against First DataBank (“FDB”), one of several companies that report data on prescription drug prices, FDB has agreed to reduce the reported AWP of certain drugs by four percent. At this time the proposed

<sup>11</sup> See p. xvii and footnotes 10 & 11 to that page in Federal Trade Commission, “*Pharmacy Benefit Managers: Ownership of Mail-Order Pharmacies*,” August 2005. As with many FTC reports, I note that conflicting interpretations of the results of this report remain to be settled.

<sup>12</sup> Lawrence W. Abrams, “Quantifying Medco's Business Model”, 4/5/2005. [http://www.nu-retail.com/quantifying\\_Medco\\_business\\_model.pdf](http://www.nu-retail.com/quantifying_Medco_business_model.pdf), accessed September 3, 2007.

settlement has received preliminary but not final court approval. We cannot predict the outcome of the case or, if the settlement is approved, the precise timing of any of the proposed AWP changes.

In the absence of any mitigating action on our part, the proposed reduction in FDB's AWP would have a material adverse effect on the margin we earn on home delivery transactions. It may also create disruption in our retail networks due to the adverse impact on AWP-based retail pharmacy pricing. However, most of our contracts with clients and retail pharmacies contain terms we believe will enable us to mitigate the adverse effect of this proposed reduction in FDB's reported AWP."<sup>13</sup>

21. The last paragraph of this notification bears particular scrutiny. It essentially states that ESI, which had clearly profited from the increases in Spread resulting from the Scheme simply would not allow those profits to be taken away: ***"Most of our contracts with clients and retail pharmacies contain terms we believe will enable us to mitigate the adverse effect of this proposed reduction in FDB's reported AWP."*** This certainly makes perfectly clear which entity has the bargaining strength in the relationship between PBMs (here ESI) and their TPPs. In light of this confident assertion, McKesson's and Dr. Willig's assertion that TPPs had the competitive power to push-back the impacts of the Scheme is simply not credible.

## V. CONCLUSIONS

22. McKesson's expert and counsel suggest that the "invisible hand" of competition would wipe away any trace of impact left by the alleged fraud. These claims do not withstand scrutiny. They are supported neither by economic theory nor empirical evidence. Specifically,

- a) The evidence put forward to date demonstrate that only two of all PBMs in the country knew of the increased Spreads induced by the Scheme; see ¶ 22 of Attachment D. These two PBMs are among the three largest and most sophisticated in the country.
- b) Only one, ESI, of these two PBMs exhibited a response directed at its TPP clients. ***No other PBMs exhibited any response directed toward its client TPPs.*** Furthermore, ESI did not demonstrate a willingness or an effort to renegotiate the terms of its contracts with its client TPPs. Instead, it sent out a vanilla letter saying that the Spread had increased for "certain drugs." ESI did not say how many drugs constituted "certain drugs;" ESI directed its staff not to proactively offer any relevant information unless asked by TPP clients; ESI did not propose specific methods by which the TPPs could mitigate the impacts of the Spread.
- c) This lack of any revealed response by PBMs should not be surprising. First, most PBMs did not know of the impacts of the Scheme. Second, those that did know

<sup>13</sup> See Express Scripts, Inc., Annual Report 2006, p. 21.

of the impacts of the Scheme and/or were most likely to know were the largest PBMs. The three cited by McKesson were the three largest in the country in 2005; see Table E.1. These large PBMs are precisely those most likely to be part of large health care conglomerates, which offer PBM services, mail-order pharmacy and at times retail pharmacy, among other services.

- d) ***The corporate entities owning these PBMs benefited from the Scheme***, as the internal strategic documents of ESI demonstrate; see ¶¶ 12-14 of Attachment D. As Figures E.1 and E.2 demonstrate, Medco Health and ESI earn the majority of the revenue (hence profit) from mail order and network pharmacy lines of business.<sup>14</sup> Since the Scheme was estimated by McKesson to increase profit on retail pharmacy sales (and by inference profits on mail-order pharmacy sales) by “3 times”, it is not credible to argue that PBMs (and their corporate owners) would compete away those profits in an attempt to add, on the margin, to their already substantial number of client TPPs and number of insured lives. If they did behave in this fashion, there would certainly arise the possibility of shareholder litigation for mismanagement. But the shareholders need not worry; as made clear by PBM statements to their shareholders (e.g., ESI’s Annual Report, footnote 13 above) the corporate entities that benefited from the Scheme did not intend to let those benefits be taken away, either through competition or legal settlement.
- e) Put simply, the Court must carefully reflect upon what it believes to be the notion of “fierce competition.” In undergraduate textbooks on microeconomics, “fierce competition” means that many competitors in a horizontal market for a single simple product compete until they just cover costs; that is, until they compete away “excess profits.”
- f) That notion of “fierce competition” is simply not appropriate here. Competition is much more nuanced. It involves balancing profits earned by health care conglomerates across a variety of related lines of business in a variety of markets. The competition in each of these markets is constrained by institutional realities, bargaining and Roth-Nash equilibria. A PBM, and its corporate ownership, will “compete fiercely” to maximize profits across all lines of business. In the case of those large vertically-integrated PBMs that knew of the impacts of the Scheme, profit maximization resulted from taking the profits induced by the Scheme at the pharmacy rather than giving them up in an effort to gain (or retain) a few TPPs.

<sup>14</sup> This has been noted more broadly. As I have cited elsewhere, “Examination of the sources of revenue for PBMs reveals that PBMs make more money from manufacturer revenue than they make from employer/client fees. Other major sources of revenue include revenue from pharmacy discounts not passed on to the end payer. Some analysts have raised concerns about the potential conflict of interest faced by PBMs with more revenue from drug manufacturers [and pharmacies] than from the employer or client. Another potential conflict of interest results from a PBM promoting their own pharmacy (a mail order pharmacy) while at the same time reviewing prices and processing prescription claims of community pharmacies.” See Stephen W. Schondelmeyer and Marion V. Wrobel, “Medicaid and Medicare Drug Pricing: Strategy to Determine Market Prices,” Final Report, Abt Associates Inc., Prepared for Centers for Medicare and Medicaid Services, August 30, 2004, p. 13.

- g) These theoretical and empirical analyses are buttressed by the econometric analysis of reimbursement data that I have put forward in Attachment F. If the competition were as fierce as McKesson is trying to convince the Court, we should see push-back, either quickly or within a year or two of the implementation of the Scheme. ***We do not see push-back through the end of my data, November 2004.***

**TABLE E.1**  
**LIST OF PBMS, 2002 AND 2005**

<i>Name</i>	2005*		2002**		<i>Owns Mail Order</i>	<i>Owns Retail Pharm</i>	<i>Notes on Mergers &amp; Acquisitions</i>
	<i>Rank</i>	<i>Market Share</i>	<i>Rank</i>	<i>Market Share</i>			
Caremark Rx, Inc.	1	19%	5	5.2%	Y	Y	Retail acquired through CVS merger 2006 [1]
Medco Managed Care	2	13%	2	14.1%	Y	Y	Merck spin-off 2003 [2]; Owns specialty pharmacy [3]
Express Scripts, Inc.	3	11%	3	10.9%	Y	Y	Owns specialty pharmacies [4]
WellPoint Pharmacy Management	4	7%	4	7.0%	Y		Bought PrecisionRx in 2000, and was purchased by Anthem in 2004 [5]
PharmaCare Management Services, Inc.	5	6%	10	2.6%	Y	Y	Wholly owned subsidiary of CVS [6]
MedImpact Healthcare Systems, Inc.	6	6%	6	5.2%			
Argus Health Systems, Inc.	7	5%	7	5.2%			
RxStrategies, Inc.	8	3%	N/A	N/A			
ACS State Healthcare	9	3%	16	1.4%			
Health Trans	10	3%	N/A	N/A			
AdvancePCS			1	16.3%	Y	Y	Purchased by Caremark in 2003 [7]
Eckerd Health Services			8	3.5%	Y	Y	Purchased in a two-way deal by Caremark and Canadian Jean Coutu Group (owners of Brooks) in 2003 [8]
First Health Services Corporation			9	2.7%			
WebMD Corporation			11	2.6%			
Aetna US Healthcare Pharmacy Management			12	2.4%			
Pharmacy Services Group			13	2.4%	Y		Owns mail order service called RxUniverse [9]
ScripSolutions			14	2.0%	Y	Y	Owns specialty pharmacy [10]
National Prescription Administrators, Inc. (NPA)			15	1.6%	Y		Bought by Express Scripts (ESI) in 2002 [11]
Prescription Solutions			17	1.2%	Y		Owned by UnitedHealth Group [12]
Health Information Designs, Inc.			18	1.1%			
RxAmerica			19	1.0%	Y	Y	Owned by Longs Drug Stores Corporation [13]
Anthem Prescription Management, L.L.C.			20	1.0%	Y		Changed name to WellPoint after acquiring WellPoint in 2004 [14].
Prime Therapeutics, Inc.			21	0.9%	Y		Own mail order service called PrimeMail [15]
Managed Pharmacy Benefits Inc. (MPB)			22	0.8%		Y	Owned by Medicine Shoppe International, Inc [16]
RxPRIME			23	0.7%	Y		Owned by CIGNA [17]
US Script			24	0.7%	Y		In January 2006 Centene Corp., a managed care provider, purchased US Script [18]

	2005*		2002**				
<i>Name</i>	<i>Rank</i>	<i>Market Share</i>	<i>Rank</i>	<i>Market Share</i>	<i>Owns Mail Order</i>	<i>Owns Retail Pharm</i>	<i>Notes on Mergers &amp; Acquisitions</i>
AddHealth, Inc.			25	0.7%			
National Medical Health Card Systems			26	0.5%	Y	Y	Owns specialty pharmacy [19]
Health Resources, Inc.			27	0.5%			
Walgreens Health Initiatives			28	0.5%	Y	Y	[20]
Systemed, L.L.C			29	0.4%	Y	Y	Subsidiary of Medco Health [21]
RESTAT			30	0.4%			Owned by the F. Dohmen Company [22]
Pharmaceutical Care Network (PCN)			31	0.4%			Bought by National Medical Health Card Systems, Inc. in March 2005 [23]
WMS Prescription Drug Plans			32	0.3%	Y	Y	Wal-Mart mail-order pharmacy services are owned and operated by Walmart [24]
Certifax Pharmacy Services			33	0.3%			Mail-order service bought by Walgreens in 1999 [25]
Pequot Pharmaceutical Network[R] (PRxN[R])			34	0.3%	Y		Wholly owned by Mashantucket Pequot Tribal Nation [26]
IPS (Immediate Pharmaceutical Services)			35	0.3%	Y		[27]
SMCRx			36	0.3%	Y	Y	Subsidiary of Safeway [28]
Inteq Group Inc., The			37	0.3%	Y		[29]
Northwest Pharmacy Services (NWPS)			38	0.3%			
Claimspro Management Services, Inc.			39	0.3%	Y	Y	Purchased by Pharmcare (CVS) in 2007 [30]
National Pharmaceutical Services			40	0.3%	Y		Owned by Pharmaceutical Technologies [31]
Prime Med Pharmacy Services, Inc.			41	0.2%			Subsidiary of Med Diversified Inc. [32]
Centrus-Pharmacy Benefits Management			42	0.2%			Bought by National Medical Health Card in 2003 [33]
United Provider Services			43	0.1%			Subsidiary of Pharmcare (CVS) [34].
FFI Health Services			44	0.1%			Acquired by Advance Paradigm, Inc. in 2000 [35]
Pharmacy ADVANTAGE System			45	0.1%			Changed name to Catalyst Rx [36]
Universal Rx			46	0.1%			
Medical Matrix Inc.			47	0.1%			
Pharmacy Provider Services Corporation			48	0.1%			
PharMerica			49	0.1%			Kindred Healthcare Inc. and AmerisourceBergen merged creating PharMerica in July 2007 [37]
Maxor National Pharmacy Services Corporation			50	0.1%	Y	Y	[38]



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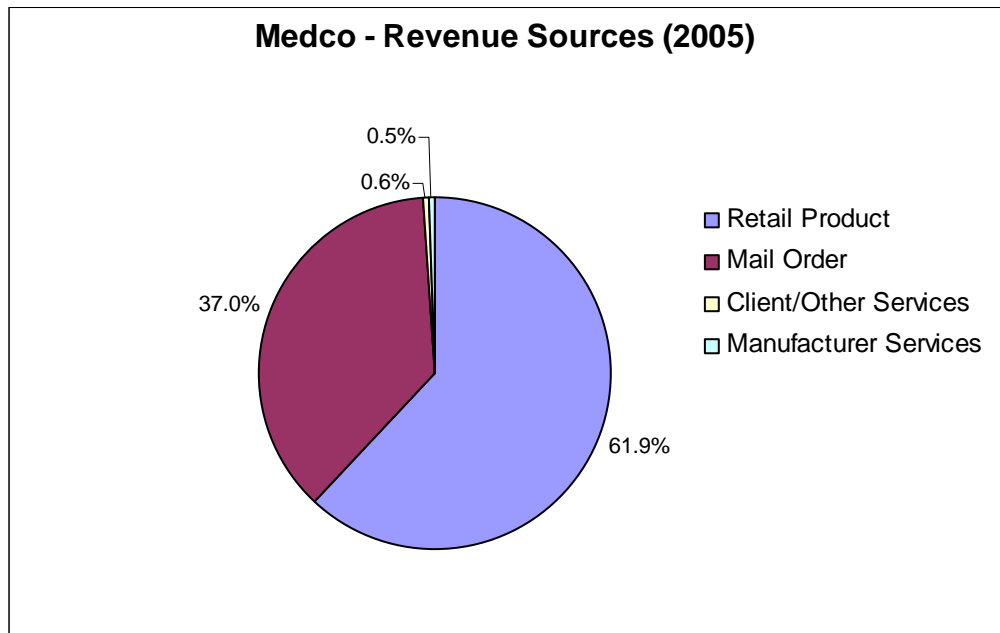
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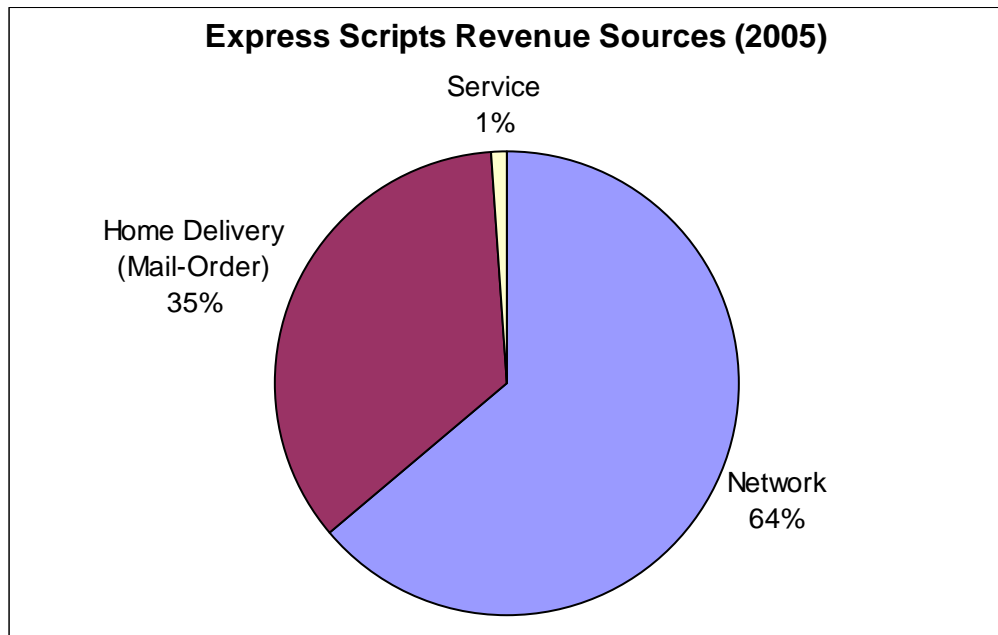
**FIGURE E.1**  
**SOURCES OF NET REVENUES FOR MEDCO HEALTH SOLUTIONS**



**Source:**

Medco Health Solutions Inc., 2005 Annual Report, p.22

**FIGURE E.2**  
**SOURCES OF NET REVENUES FOR EXPRESS SCRIPTS, INC. (ESI)**



**Source:**

Express Scripts 2005 Annual Report, p. 43.

**ATTACHMENT F**

## ATTACHMENT F

### ECONOMETRIC AND DAMAGES ANALYSIS

#### I. INTRODUCTION AND OVERVIEW

1. In my analyses put forward to date in this litigation and in support of the Settlement with First DataBank, I assumed Defendants surreptitiously “turned the mark-up switch” in the FDB computers from 1.20 to 1.25 by NDC at the time of Scheme implementation, by drug and manufacturer. That assumption was based upon the evidence I had reviewed. My further review of the evidence in Attachment D corroborates this earlier interpretation and assumption. This Court has certainly interpreted the evidence as demonstrating that there was such impact and injury at the time the Scheme was implemented by NDC.<sup>1</sup>

2. McKesson’s counsel and McKesson’s expert Dr. Willig attempt to deflect a finding of injury by asserting, incorrectly, that information was sufficiently available and PBM competition was sufficiently aggressive so that all PBMs knew of either the Scheme or its impact upon spreads; they all told the TPPs; all TPPs knew; and presumably all TPPs therefore recontracted and recouped the injury from the inflation induced by the Scheme. Indeed, they assert some TPPs may have been better off as a result of the Scheme and their response to it.

3. It should be noted that even if McKesson’s counsel and Dr. Willig were correct, and they are not correct, uninsured cash-paying consumers would not have been able to compete away any of the injury resulting from the Scheme. They would have paid U&C charges, which I have demonstrated are usually greater than AWP.<sup>2</sup> I address the relationship between U&C in greater detail in Section IV of this Attachment.

4. I have addressed the many factual errors, the errors in basic economic analysis and the mischaracterizations of the evidence by McKesson’s counsel and Dr. Willig in Attachment D. I address the errors in the statistical analysis presented by Dr. Willig in his May 2007 Declaration in Section III of this Attachment.

Before doing so, in Section II of this Attachment I first present a descriptive and graphical analysis of the implications of the Scheme on AWP and reimbursement by Class members, TPPs, coinsurance payers and uninsured cash payers. I indicate how the Scheme would affect AWP and Class member reimbursements (as allowed amounts) if there were no recontracting and/or recoupment. I then present a descriptive analysis of the patterns of AWP and Class member payments if there were recontracting and/or recoupment by Class members. This descriptive analysis will be the point of departure for my detailed statistical analysis of real-world retail transactions data, which I also present in Section II. To date, both Dr. Willig and I have based our analyses on discovery materials and aggregate data summarizing discounts off AWP and dispensing fees. There are several rich sources of real-world retail reimbursement data that allow me

<sup>1</sup> See for examples *Motion/Status Hearing* at pp. 16-17 and 19-20 and *Memorandum and Order* at pp. 6-8.

<sup>2</sup> See my March 2007 Declaration, ¶ 20.b).



to precisely quantify the extent to which Class members were injured by the Scheme and the extent to which they benefited, *if at all*, from the competitive forces cited by Dr. Willig and McKesson's counsel to recontract and recoup the damages caused by the Scheme.

5. This Attachment proceeds as follows. In Section II, I introduce the analysis I undertake with reimbursement data for self-administered drugs (SADs) sold at retail to cash payers and TPPs. I provide an intuitive description of the analysis. Having done so, I present the detailed statistical results of my analysis. I find the following:

- a) The Scheme had an immediate and permanent impact on the amounts paid by Class members at retail.
- b) The evidence demonstrates that inflation resulting from the Scheme was not mitigated by recontracting. There is no evidence of "push-back" or recoupment.
- c) These findings are robust to a variety of quantitative, statistical and econometric formulations.

In Section III, I review the econometric analysis put forward by Dr. Willig in his May 2007 Declaration. I demonstrate that it violates basic econometric practices and procedures; it produces biased and incorrect estimates of economic behavior; it is unreliable as a source of evidence relevant to this proceeding.

In Section IV, I demonstrate how I incorporate the results of my econometric analysis into my damages model.

## II. AFFIRMATIVE ANALYSIS

### A. The Scheme and Its Impact

6. Under FDB reporting procedures, whenever a drug manufacturer reported increases (or decreases) in the WACs for selected drugs (by NDC), the related AWP's have been calculated as a multiple or mark-up ( $\lambda$ ) times those WACs, specifically as  $\lambda \cdot \text{WAC}$ . Prior to the implementation of the 5% Scheme, for the drugs subject to this litigation  $\lambda = 1.20$ . After implementation of the Scheme,  $\lambda = 1.25$ . Upon implementation, the Scheme immediately increased or inflated the AWP by 4.167%;<sup>3</sup> this inflation was in addition to the increase in the AWP caused by the increase in the WAC itself. Alternatively, absent the Scheme, the relevant AWP's would have been 4% lower.<sup>4</sup> This impact was formulated in my December 2006 Declaration (appended in Attachment C.I).

7. As discussed in my December 2006 Declaration, TPPs enter into contracts with PBMs determining pharmaceutical reimbursements such that the amount allowed (AA) and paid at retail is  $AA = \text{AWP} \cdot (1-d) + df = p \cdot \text{AWP} + df$ , where  $d$  is the discount off

<sup>3</sup> As noted in my December 2006 Declaration, the 5% Scheme increased AWP's as follows:  $(1.25 \cdot \text{WAC} - 1.20 \cdot \text{WAC}) / 1.20 \cdot \text{WAC} = 4.167\%$ .

<sup>4</sup> That is,  $(1.25 \cdot \text{WAC} - 1.20 \cdot \text{WAC}) / 1.25 \cdot \text{WAC} = 4.00\%$ .

AWP and df is the dispensing fee. For notational simplification, I denote  $p = (1-d)$ . As d increases, p will decrease; p is usually less than 1.00.<sup>5</sup>

Introducing the variable determining the impact of the Scheme into the reimbursement formula,  $AA = p*\lambda*WAC + df$ . But for the Scheme,  $\lambda = \lambda_{bf} = 1.20$ . Given the Scheme, actual  $\lambda = \lambda_a = 1.25$ . I demonstrated that the 4.167% increase in the AWP would cause an inflation of somewhat less than 4.17% in Class-wide drug payments in my December 2006 Declaration, assuming that p and df **were the same in the actual and but-for worlds**.<sup>6</sup> Note further that the ingredient costs of the dispensed drug, which are equal to  $AA - df$ , increase by exactly the same amount as the AWP, 4.167%.<sup>7</sup>

8. Note further that while TPPs account for most of the reimbursement for SADs, uninsured cash payers account for a small but important percentage and pay the usual and customary (U&C) charge which is generally greater than AWP; see ¶ 20.b) and footnotes 25-27 of my March 2007 Rebuttal Declaration.<sup>8</sup> Hence, ***the amounts paid by uninsured cash payers were similarly inflated by the Scheme***, regardless of TPP responses. The amount of this overcharge is directly related to the inflated AWP. I discuss a formulaic methodology for calculating damages to uninsured cash payers paying U&C in Section IV; the calculation is included as one of my total damage calculations. It is a straight-forward calculation.<sup>9</sup>

<sup>5</sup> Extensive testimony supporting this formulation has been presented to this Court by Experts for the Drug Manufacturers and by Prof. Berndt in the AWP MDL matter; see footnotes 28 & 29 of my December 2006 Declaration in this matter. Note also that p is not always less than 1.

<sup>6</sup> This assumption does not require p and df be constant over time, only that market-wide changes are no different under the Scheme than they would have been absent the Scheme. Note also that the extent to which the increase in AA is less than 4.17% is determined by the relative size of the dispensing fee, df; see ¶ 21 of my December 2006 Declaration.

<sup>7</sup> Retail drug transaction amounts usually reflect the sum of the ingredient cost (IC) plus the dispensing fee, df; that is,  $AA = IC + df = p*\lambda*WAC + df$ . Therefore,  $IC = p*\lambda*WAC$ , which increases by the same amount as AWP; see ¶ 21 of my December 2006 Declaration.

<sup>8</sup> Likewise, Medicaid reimbursement is included in IMS survey data of reimbursement at retail. More specifically, based upon recent Novartis data, TPPs account for 78.8% of retail drug payments; uninsured cash payers account for 9.3% and Medicaid accounts for 11.9%. See Novartis, Pharmacy Benefit Report: Facts & Figures, 2004 edition, Figure 1: Retail Market Share by Payer Type: 2003, p. 23.

<sup>9</sup> The amount reimbursed by uninsured cash payers is  $(1 + x\%)*AWP = (1 + x\%)*\lambda*WAC$ , where x% is calculated from sources such as those cited in footnote 4 of this Declaration (and footnotes 25-27 of my March 2007 Rebuttal Declaration [GAO Report]);  $\lambda = 1.20$  prior to the Scheme. With implementation of the Scheme, the uninsured cash payers' U&C amount was inflated to  $(1 + x\%)*1.25*WAC$ , since  $\lambda = 1.25$ . The inflation to uninsured cash paying consumers was  $\Delta U\&C = (1 + x\%)*0.05*WAC$ .

Based upon these sources, x% = 9.9% in 2000 and 6.4% in 2004, based upon a survey of retail transactions data (p. 4 of the GAO Report). I have calculated x% over time for selected drugs in Appendix A and found a fairly constant formulaic ratio (much like AA/WAC calculated for TPPs). IMS data allow me to calculate formulaically the relationship between U&C and AWP by uninsured cash payers for each and every drug in my sample, but only over the last 24 months (IMS maintains and offers these data only for the prior 24 months). I understand that Verispan provides these data since August 2001. If I had been provided with these Verispan data, I could have formulaically estimated impact, injury and damages with the implementation of the Scheme on a monthly basis on a drug-by-drug basis. As I have noted elsewhere, Verispan refused to provide these data.

9. Figure F.1 graphically depicts the impact of the Scheme. For years prior to the implementation of the Scheme, the drugs in question have been “20% drugs.” In Figure F.1.a), the 1.20 mark-up is assumed in place prior to  $t_0$ ; it was in place when a new WAC was reported in  $t_1$ . Given  $p$ ,  $df$  and  $\lambda = 1.20$ , the amount reimbursed by TPP Class members at retail has been  $AA = p * 1.20 * WAC + df$ . That is, reimbursement rates at retail *increase with* the wholesale cost of drug (WAC), but *decrease* to the extent that  $p$  and  $df$  are decreased. As a result,  $AA$  tracks  $AWP$  in Figure F.1.a) until  $t_2$ . For simplicity of exposition, I assume no change in  $p$  or  $df$  in Figure F.1.a).

10. In Figure F.1.a),  $t_2$  denotes the month in which the Scheme was implemented for the drug depicted. At  $t_2$ , the manufacturer reports its WAC to FDB; the manufacturer assumed that its mark-up remained at 1.20 and that  $AWP_{bf}$  and  $AA_{bf}$  were therefore the list price and the transaction price at retail, respectively. However, as part of the Scheme, ***unknownst to and unnoticed by the manufacturer and the market***, FDB and McKesson conspired to secretly increase  $AWP$  and  $AA$  to  $AWP_a$  and  $AA_a$  by setting  $AWP = 1.25 * WAC$ . Class members therefore paid  $AA = p * 1.25 * WAC + df$ , an inflation of somewhat less than 4.167%. The increase in ingredient costs alone ( $AA - df$ ) is exactly 4.167%. Retail pharmacies see their revenues increase by approximately 4.2% above the increase in costs (WACs); their profits increase by a much greater percentage. TPPs and uninsured consumers pay for these increased retail revenues and profits.<sup>10</sup>

11. Figure F.1.b) focuses more closely upon the graph after  $t_2$ .  $AWP_a$  is 4.17% greater than  $AWP_{bf}$ .  $AA_a$  is approximately, but somewhat less than, 4.1% greater than  $AA_{bf}$ . Since  $AA = p * \lambda * WAC + df$ , ***if  $p$  and  $df$  were to decrease in direct response to the Scheme*** (as McKesson and Dr. Willig assert), the increase in the allowed amount certainly would be less than 4.1%. That is, there would be “push-back” or “recoupment.” In Figure F.1.b), I depict such changes while assuming the following:

- PBMs and TPPs did not at first realize that the Scheme had been implemented at  $t_2$ , or they were constrained by contract from doing anything about it.
- PBMs and TPPs came to realize of the Scheme by  $t_3$  and were ready to renegotiate at that time.
- PBMs working for TPPs and TPPs working on their own aggressively insisted on contract renegotiations to recoup the overcharges incurred through the  $AWP$  inflation.
- These PBMs and TPPs negotiated higher discounts (decreased  $p$ ) and lower dispensing fees ( $df$ ).

In this case, if  $p$  and  $df$  were reduced to partially recoup the overcharges on this drug,  $AA_a$  would be decreased to  $AA_{a1}$ . If  $p$  and  $df$  were reduced enough to fully recoup the overcharges on this drug,  $AA_a$  would be reduced to  $AA_{a2} = AA_{bf}$ . Note further, that these

<sup>10</sup> As noted by the March 28, 2002 internal ESI memo, “The network pharmacies are the big winners in the situation as their reimbursement from PBMs has been superficially increased. The client [TPP] will see an increased trend [in drug costs] in direct relation to the increase in  $AWP$ . PBM will receive additional income for their mail order prescriptions” (emphases added). I discuss these issues at greater length in ¶¶ 12-14 & 7.c) of Attachment D of this Declaration.

reactions to recoup overcharges would not benefit uninsured cash payers, who were still paying  $U\&C > AWP$ .

12. In my Declarations in this matter to date, I have argued that p and df have not been reduced in response to the Scheme. In that case, my analysis demonstrates that the Scheme inflated  $AA_{bf}$  to  $AA_a$ , causing damages on the order of 4% of actual drug reimbursements. Dr. Willig and McKesson's counsel have argued that p and df have decreased as a direct result of the Scheme; that Class members have eliminated some ( $AA_{a1}$ ) or all ( $AA_{a2}$ ) of the overcharges. Indeed, given their assertion that p and df have been reduced as a result of the Scheme, and that p and df apply to *all* drugs (not just those in Appendix A of the *Complaint*), they assert, *incorrectly*, that the Class-members have at worst eliminated all overcharges and at best have been made better off, since the p and df are applied to other non-challenged drugs.

13. However, to date no detailed statistical analysis has been conducted to actually measure the impact of the Scheme on AA, p and df. The quantitative analysis has been limited to the following. Dr. Willig introduced annual data in his January 2007 Declaration purporting to show how p and df have decreased over time, overreaching with his conclusion that the changes from 2001 through 2005 were caused by the Scheme (or by the increase in AWP induced by the Scheme). In my March 2007 Declaration, I plotted those values of p and df over time and demonstrated that there was no change in their pattern over the entire time period, 1997-2004. Under Dr. Willig's assertions, some observable and statistically significant shift must be revealed in the temporal patterns in p and df in 2001 or thereafter, since there was a larger increase in AWP for the challenged drugs. No such revelation occurs. In his May 2007 response, Dr. Willig incorrectly asserts that I presented and estimated a model hypothesizing that p and df were caused by time; that assertion makes no sense and is wrong. Time does not cause changes in the determinants of AA; market forces do. I merely presented and observed the changes that had occurred in p and df (due to market forces) over time. Dr. Willig compounds his incorrect assertion by specifying an econometric model relating average payment percentages to AWP. His model is incorrectly specified as a matter of economics; his models are incorrectly estimated as a matter of statistics and econometrics; his analysis has produced meaningless results. I address the failures of his econometric analysis in Section III of this Attachment.

14. I undertake a more detailed statistical analysis as follows. I merge real world IMS survey data on payments for retail transactions for SADs (which are reported consistently by drug and by dosage over the period of interest) with FDB data for AWP and WACs (which are reported by NDC over the Class period through November 2004).<sup>11</sup> For

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<sup>11</sup> IMS data is reported by drug and dosage over the entire period for which I have data. The IMS data aggregate all NDCs with a common dosage and summarize without differentiating all transactions by TPPs, uninsured cash payers and Medicaid. The FDB data are provided for every NDC for every drug and dosage. The IMS data do not allow for merging with the FDB data at the NDC level over the entire period of interest. Therefore, I have had to use the IMS data at the dosage level. The Verispan transactions data would have allowed for merging the transactions and FDB data at the NDC level. The Verispan transactions data would have also allowed me to disaggregate TPPs reimbursements from uninsured cash payer reimbursements. However, my requests for the Verispan data from McKesson were refused.

consistency, I express the IMS payments data, AWP and WACs per extended unit (EU or pill) of each drug analyzed. The IMS data summarize a substantial nation-wide sample of transactions from a broad variety of retail outlets. The transactions include payments by cash payers, TPP-insured payors and Medicaid-insured payors in the real world. The IMS data purportedly report the ingredient cost paid in the transaction only; specifically,  $AA - df = IC$ .<sup>12</sup> The FDB report the AWP and WAC related to each transaction. Using this merged database, I can observe and test statistically the following questions:

- Did the amounts paid by Class members increase immediately, and “in direct relation to the increase in AWP”<sup>13</sup> by drug and dosage, with implementation of the Scheme? That is, were the Class members overcharged as soon as the Scheme was implemented by FDB?
- Did the inflation in Class-wide reimbursement rates (directly related to AWP) above drug cost increases (WAC) continue throughout the Class Period?
- Alternatively, were PBMs and TPPs able to “push back” the inflation through recontracting and recoupment efforts aimed at reducing  $p$  (the discount off AWP) and/or  $df$  (the dispensing fee)? If so, how far were the TPPs and PBMs able to “push back” the inflation?
- Note finally that the injury to uninsured cash payers is induced if the AWP is increased by the Scheme. This group of payers has no ability to push-back reimbursement rates.

15. Before analyzing these merged data more closely, it is useful to translate the measures of AA, AWP and WAC in Figures F.1.a) and F.1.b) into the following ratios for TPP reimbursement. According to footnote 7,  $AA = \text{the ingredient cost (IC) plus the dispensing fee (df)} = IC + df$ . Therefore,  $AA - df = IC = p * \lambda * WAC$ , which is purportedly reported by the major data vendors, IMS and Verispan. If that convention is followed by retailers, the data which I analyze will be  $IC/WAC = p * \lambda$  and  $IC/AWP = p$ . Using these ratios and the descriptive charts in Figures F.1.a) and F.1.b), I can quantify whether and by how much the Scheme impacted the amount paid by Class members for drug ingredient costs as follows:

- If the Scheme has an immediate impact upon Class member reimbursements,  $IC/WAC$  will increase from  $1.20 * p$  to  $1.25 * p$  or by 4.167%, regardless of the fact and size of the increase in WAC. Parenthetically, if  $IC/WAC$  increases

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I discuss how I have merged the IMS dosage-based transactions data with the appropriate NDCs in the FDB data in footnote 22 below.

<sup>12</sup> The IMS National Prescription Audit (NPA) provides a comprehensive sample of retail transactions for drug reimbursement, including transactions at independent drug stores, retail chains, and food stores. According to internal communications from IMS, the reimbursement data summarize ingredient costs and should not include the dispensing fees paid. My analysis indicates that retail pharmacies do include some dispensing fees in the allowed amounts reported.

<sup>13</sup> See the March 28, 2002 internal ESI memo from Chris Macinski, quoted at greater length in ¶ 12.c) of Attachment D to this Declaration.



immediately but by less than 4.167%, the reporting of IC to IMS by retailers includes some amount of the dispensing fees.

- If PBM and TPP behavior is sufficiently competitive as asserted by McKesson, we should see the recontracting and recoupment depicted in Figure F.1.b) in  $AA_{a1}$  and  $AA_{a2}$ . In that case, IC/WAC should decline with  $p$  from  $1.25*p$ .
- If PBM and TPP behavior is competitive enough to negate the injury of the Scheme, we should see IC/WAC decline from  $1.25*p$  to  $1.25*p_1 = 1.20*p$ . In this case,  $AA_{a2} = AA_{bf}$  in Figure F.1.b); and  $p_1/p = 1.20/1.25 = 0.96$ . In this case, the discount measure,  $p$ , decreases by 4% after  $t_3$  and before the end of the Class Period.
- If the data on IC/WAC demonstrate that  $p$  declines by 4% to mitigate the injury from the Scheme, we should find that  $IC/AWP = p$  should likewise decline by 4%.

16. Figure F.1.c) depicts some of these calculations. Until  $t_2$ ,  $p$  ( $= IC/AWP$ ) is assumed constant;  $\lambda*p$  ( $= IC/WAC$ ) is merely  $1.20*p$ . At  $t_2$ ,  $\lambda$  increases to 1.25 and  $IC/WAC = 1.25*p$ . If there is push-back or recontracting or recoupment, then  $\lambda*p$  will decrease from  $t_3$  as  $p$  decreases. If  $p$  decreases enough,  $\lambda*p$  will decrease to the pre-Scheme level of IC/WAC. That reduction will be reflected in the decline in  $p$  (IC/AWP) to  $p_1$ .

17. My merged data set allows me to test these hypotheses, graphically and econometrically. The data also allow me to test whether retailers actually adhere to the IMS request that they report only IC in their retail transactions data. I now turn to those tests.

## B. Graphical Exposition

18. Figures F.2.a) through F.2.e) present graphical representations of the relationships among IC, WAC and AWP for the four drugs cited by Dr. Willig as being important signals to “those who specialize in monitoring drug prices”<sup>14</sup> – Lipitor 10mg and 20 mg; Plavix 75 mg; Prevacid 30 mg and Wellbutrin SR 150 mg. More specifically, at ¶ 66 of his January 2007 Declaration Dr. Willig attempts to raise conjecture to the level of evidence, stating “It is difficult to believe that an AWP increase of this magnitude [the magnitude at the time of the implementation of the Scheme, which he reports in his Table 3] would go unnoticed by those who specialize in monitoring drug prices.”<sup>15</sup>

19. If these drugs and the changes in their AWP were such important signals, we would certainly expect that these drugs would be the focal point of initial PBM and TPP recontracting efforts to increase discounts off AWP (that is, to reduce  $p$ ). The data for reimbursements paid by Class members do not support Dr. Willig’s and McKesson’s

<sup>14</sup> See ¶ 52 of Attachment D to this Declaration and its related footnotes. Note that I include two dosages of Lipitor.

<sup>15</sup> The increases are 13.5% for Lipitor 10mg; 16.9% for Plavix 75mg; 11.5% for Prevacid 30mg; and 14.3% for Wellbutrin 150 mg.

conjectures.

- a) The measures of p (IC/AWP) are essentially constant over the period for which I have comparable data.<sup>16</sup>
- b) With the implementation of the Scheme in January 2002 for these four drugs, reimbursement amounts paid by Class members relative to WAC (IC/WAC) increased immediately, by the following amounts: Lipitor 10mg by 3.9%, Lipitor 20mg by 4.2%, Plavix 75mg by 4.4%, Prevacid 30mg by 4.8%, and Wellbutrin SR 150mg by 3.9%.<sup>17</sup> If I measure the inflation in months 2-7 after implementation of the Scheme, the mark-ups for these five drug/dosages increased by the following amounts: 4.0%, 4.3%, 4.5%, 4.9% and 3.9%.<sup>18</sup>
- c) I summarize the increases for each of the five drug/dosages and all five taken together in Table F.1. I note that the percentage increases in IC/WAC are generally less than 4.17%, which would be their value if the real world IMS reimbursement data excluded all dispensing fees. I conclude that the reported IMS reimbursement data include some or all the dispensing fee. Going forward, I therefore denote the IMS transaction data as allowed amount, AA, rather than IC.
- d) With each increase in WAC after January 2002 through the end of 2004 for these five drug/dosages, reimbursement rates increased by the amount of the WAC plus the incrementally inflated mark-up induced by the Scheme. I summarize the pattern of these increases on a monthly basis in Figures F.2.a)-F.2.e); I summarize these increases for each of five six-month periods after January 2002 in Table F.1. In both cases, there is no evidence of push-back in the inflation. On average over all five drug/dosages, the increases (on an absolute basis; see footnote 17) in the mark-up over WAC are 4.24%, 4.34%, 4.33%, 4.26% and 4.29%.<sup>19</sup> During this time frame, the WACs for both Lipitor dosages were increased 4 times; the WAC for Plavix was increased 3 times; the WAC for Prevacid was increased 5 times; and Wellbutrin 4 times.
- e) In the month that the AWP and WACs are increased, the reimbursement rates at retail do not increase immediately, reflecting a lag in the change in transaction prices relative to list prices. This lag is not limited to the month in which the Scheme was implemented; it is revealed in the reimbursement data for all months in which WACs and AWP are reported and increased (see Figures F.2.a)-F.2.e)). This lag induces the irregular patterns that appear in the graphs of AA/WAC and AA/AWP over Figures F.2.a)-F.2.e).

<sup>16</sup> My data for FDB AWP and WACs run until November 2004. My IMS data runs through summer 2007. The patterns for other doses of these drugs (e.g., Lipitor 40 mg and 80 mg) are nearly identical.

<sup>17</sup> These increases are measured on an absolute basis as percentage points, that is  $(IC/WAC)_{post} - (IC/WAC)_{pre}$ . On a percentage basis,  $((IC/WAC)_{post} - (IC/WAC)_{pre}) / (IC/WAC)_{pre} = 3.43\%, 3.74\%, 3.83\%, 4.20\%$  and  $3.40\%$  for the first six month for the same five drug/dosages.

<sup>18</sup> As clarified in ¶ 19.e), the increases are larger for months 2-7, since the changes in AWP & WAC take a month to flow through to the AAs = ICs paid by the Class members.

<sup>19</sup> The increases in the mark-up for all five drugs (on a percentage basis) for all five periods are 3.72%, 3.80%, 3.79%, 3.74% and 3.76% respectively.



- f) The difference between values of AA/WAC and AA/AWP over time (AA/WAC – AA/AWP) eliminate the irregular patterns induced graphically by the lag in retail reimbursement, which I demonstrate in Figures F.2.a’)-F.2.e’). These Figures merely expand upon the information in Figures F.2.a)-F.2.e). This difference also makes more explicit the existence and duration of injury and impact.  $AA/WAC - AA/AWP = \{\lambda(p + df/AWP) - (p + df/AWP)\} = (\lambda - 1)*(p + df/AWP) = 0.20*(p + df/AWP)$  prior to implementation of the Scheme and  $= 0.25*(p + df/AWP)$  post implementation of the Scheme. Since  $AA/AWP = p + df/AWP$  is fairly constant over time for these drugs, AA/WAC increases by approximately  $0.05*(p + df/AWP)$  with the implementation of the Scheme. This increase does not diminish over time in Figures F.2.a’)-F.2.e’). By this measure, the impact and injury of the Scheme is uniform over the Class Period for each drug/dosage.

**Table F.1**  
**Summary of the Scheme Impact for Selected Drugs and Strengths Identified by Dr. Willig (%)**

	<b>Lipitor 10MG</b>	<b>Lipitor 20MG</b>	<b>Plavix 75MG</b>	<b>Prevacid 30MG</b>	<b>Wellbutrin SR 150MG</b>	<b>All 4 Drug/ Strengths</b>
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 1-6 Months After the Date of Markup</b>						
Change in AA/WAC	3.94	4.22	4.38	4.75	3.92	4.24
Percent Increase in AA/WAC	3.43	3.74	3.83	4.20	3.40	3.72
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 2-7 Months After the Date of Markup</b>						
Change in AA/WAC	4.04	4.31	4.52	4.86	3.94	4.34
Percent Increase in AA/WAC	3.52	3.82	3.95	4.30	3.42	3.80
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 7-12 Months After the Date of Markup</b>						
Change in AA/WAC	4.19	4.44	4.55	4.85	3.60	4.33
Percent Increase in AA/WAC	3.65	3.93	3.97	4.29	3.12	3.79
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 13-18 Months After the Date of Markup</b>						
Change in AA/WAC	3.77	4.49	4.40	4.62	4.03	4.26
Percent Increase in AA/WAC	3.29	3.98	3.85	4.08	3.50	3.74
<b>Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 19-24 Months After the Date of Markup</b>						
Change in AA/WAC	4.08	4.70	4.22	4.97	3.46	4.29
Percent Increase in AA/WAC	3.56	4.17	3.69	4.39	3.00	3.76

20. The patterns revealed in Figure 2 for Dr. Willig's drugs of choice are found more broadly among Appendix A drugs. In Figures F.3.a) through F.3.q), I present comparable data and analytic results for the following drugs: Allegra 60mg; Celebrex 100mg and 200mg; Celexa 10mg and 20mg; Neurontin 300mg and 400mg; Nexium 20mg and 40mg; Prilosec 20mg and 40mg; Risperdal 0.25mg and 1mg/ml; Seroquel 100mg and 200mg; and Zyprexa 10mg and 15mg. The patterns found therein can be summarized as follows:

- a) The measured values of  $AA/AWP = (p + df/AWP)$  remain essentially constant by drug/dosage over the period before and after the implementation of the Scheme. Some drug/dosages reveal a slight decrease in AA/AWP (say Celexa 10mg and 20mg, Prilosec 20mg, Seroquel 200mg, and Zyprexa 10mg). There were some slight increases in AA/AWP as well (say Allegra 60mg). However, such slight variations seem to reflect drug-specific competitive formulary responses (for example, the launch of Nexium inducing greater discounts by its therapeutic competitor, Prilosec) than a response to the Scheme. In order for one to conclude that there was a market-wide response in AA/AWP to the inflation induced by the increased Spread resulting from the Scheme, precise measures of a similar response to the Scheme must be found for all or most drugs. I examine that hypothesis in Section II.C below.
- b) Over the entire period for which I have data, the measures of AA/AWP for the drugs in Figures F.2.a)-F.2.e), F.2.a')-F.2.e') and F.3.a)-F.3.q) demonstrate little variation over time and certainly no systematic push-back or recoupment as asserted by McKesson.
- c) Overall, the inflation in reimbursements by the Class relative to WAC ( $AA/WAC =$  the mark-up) increased immediately upon the implementation of the Scheme by drug. There is no general evidence of any push-back in the discount  $p$  or dispensing fee  $df$  allowing for recoupment of the inflation induced by the Scheme.
- d) The patterns in AA/AWP and AA/WAC in the month in which WACs and AWP are reported to FDB are the same as those found in Figures F.2.a) – F.2.e).

21. For further comparison, it is useful to examine the patterns in the same measures (AA/WAC and AA/AWP) revealed by non-Appendix A drugs. These patterns are well characterized by the following drug/dosages in Figures F.4.a)-F.4.s): Augmentin 200mg, 200mg/ (sic) and 500mg; Fosamax 10mg and 35mg; Norvasc 2.5mg and 10mg; Paxil 20mg and 30mg; Pravachol 10mg and 20mg; Singulair 5mg and 10mg; Viagra 50mg and 100mg; Vioxx 12.5mg and 25mg; Zoloft 25mg and 100mg. The patterns found therein can be summarized as follows.

- a) On a drug/dosage by drug/dosage basis, the observed trend in measured average  $AA/AWP = p + df/AWP$  is fairly constant, as is the case for Appendix A drugs.
- b) There are some drug/dosages for which AA/AWP increases slightly over some portion of the Class period (Augmentin 200mg, Fosamax 10mg, and Vioxx 25mg). For these drug/dosages, the discounts off AWP are decreasing ( $p$  increases) and/or  $df$  is increasing. For some other drugs, such as Augmentin 200mg/ and Viagra (50mg and 100mg), the discount is increasing ( $p$  decreases

slightly over the period) and/or is decreasing.<sup>20</sup> Certainly in the case of Viagra, this change appears to reflect specific therapeutic competition and formulary placement, rather than any systematic response to AWP inflation. Overall the value of AA/AWP is fairly constant by drug/dosage over the period. There seem to be some differences across drugs, presumably reflecting alternative formulary placements but unrelated to any response to AWP inflation overall or the Scheme specifically.

- c) The patterns in reimbursement rates relative to WAC (AA/WAC) are also fairly constant over the period. They trend with the patterns revealed in AA/AWP, which is not surprising since the relationship between AA and WAC was not changed by the Scheme for these drugs.
- d) The constant relationship between AA/WAC and AA/AWP for the non-Appendix A drug/dosages demonstrates conclusively that the Scheme had an immediate and lasting impact on the amounts paid by the Class for the Appendix A drugs. Reimbursement rates for the non-Appendix A drugs, which were not affected by the Scheme, were not inflated in the same way.

22. Taking all drug/dosages in Appendix A for which I have both IMS and FDB data from July 2001 to November 2004 and which account for the top 87% of sales of all Appendix A drugs,<sup>21</sup> I calculate the inflation of Class-wide reimbursement rates resulting from the Scheme as follows. I take the average measure of AA/WAC for the six months prior to the Scheme for all drugs included in my sample.<sup>22</sup> I then compare the average measure of AA/WAC over the same set of drugs for six-month periods beginning immediately after the Scheme was implemented; ½ year after the Scheme was implemented; one year after the Scheme was implemented; and 1½ years after the

<sup>20</sup> These insights are confirmed by the econometric results presented in Exhibit F.2.

<sup>21</sup> The data for the drugs which account for a small amount of sales reveal inconsistencies and irregularities suggesting that they are not tracked as accurately or completely. I do not include them. If I did, the measured increase in the inflation in Class-wide reimbursement rates would be generally higher; see footnotes 22 & 25.

<sup>22</sup> There are 265-278 such drug/dosage combinations, depending upon the periods compared. FDB provided data for 1,228 NDCs of the total (1,442 NDCs) presented in Appendix A. These data correspond to 737 drug/dosages for which IMS provided data. However, prior to October 2003 the IMS data are not NDC-specific; rather, IMS reports reimbursement by dosages that at times include multiple NDCs. Of the 737 IMS drug/dosages, 407 could be merged with specific NDCs. The balance of the IMS drug/dosages (330) included multiple NDCs for which one-to-one correspondence was not possible. For each of these remaining drug/dosages, that NDC (and its corresponding AWP and WAC) was assigned that accounted for the most observations and greatest percentage of sales over the 2003-2004 period. In some cases the NDC assigned to a particular drug changed over time. The earlier NDCs were not reported in Appendix A. The latter NDCs, which were reported in Appendix A, did not exist at the time that the Scheme was implemented for those drugs. These NDCs were not included in this analysis.

Since IMS reports sales in thousands, many of the drug/dosages with small levels of sales reported inconsistent data over time, which were often characterized by large variations. Excluding those drug series that accounted for a small amount of total sales (*in aggregate less than 5%* of IMS total sales) and those drug/dosages with missing time series, I reduced my data set to 287 drug-dosage series. Nine drug/dosages were identified as anomalies leaving 278 usable drug/dosages.

Scheme was implemented. The results, which indicate the average increase in the mark-up of reimbursement induced by the Scheme, are the following:

<u>Increase in reimbursement relative to WAC<sup>23</sup></u>	<u>Time from Implementation of the 5% Scheme</u>
3.82%	1-6 months <sup>24</sup>
3.78%	7-12 months
3.83%	13-18 months
3.99%	19-24 months

The calculations are summarized in Exhibit F.1.d for all drug/dosages and for each drug/dosage.<sup>25</sup>

23. I conclude that the inflated mark-up in the reimbursement paid by Class members relative to drug costs (WAC) remained quite constant and equaled on average 3.8%-4.0% over the two years following the implementation of the Scheme for *all* drugs subject to the Scheme over the period August 2001 through November 2004, the last month for which I have usable FDB/IMS data. More specifically,

- a) The drugs included in the sample were affected by the Scheme at different times; therefore, the impact is quite consistent over the Class period.
- b) *There is absolutely no evidence of “push-back” or recontracting or recoupment of the increase in the mark-up over time as asserted by Dr. Willig and McKesson’s counsel. Indeed there is no general evidence of “push-back” for either the Appendix A or the non-Appendix A drugs in Figures F.2-F.4.*
- c) Once the Scheme was implemented for a given drug, the inflated reimbursement rates paid by TPP Class members were not mitigated. They endured for the duration of the Class Period. Likewise, there was an immediate and lasting impact on the mark-up paid by uninsured cash payers. These payers had no chance to negotiate any type of mitigation.

24. These conclusions are drawn from a simple analysis of means of the relevant measures, AA/WAP and AA/WAC. More complete and robust conclusions can be drawn from a more comprehensive statistical analysis. I turn to that analysis now.

25. Before doing so, I note that the average values of  $AA/AWP = p + df/AWP$

<sup>23</sup> Reported as the absolute increase in the mark-up in percentage points; see footnote 17 above. Since the average mark-up (reimbursement/WAC)  $\approx 1.17$ , the percentage increases in the mark-up are less. They are respectively 3.26%, 3.23%, 3.27% and 3.40%.

<sup>24</sup> Confirming my observation above (§ 19.b) that comparison of the first six months after the Scheme with the six months prior to the Scheme generates a conservative measure of the inflation because of the one-month lag of the increase in AA, I find that months 2-7 are 3.90% higher than the six months prior to the implementation of the Scheme over all 278 drug/dosages.

<sup>25</sup> If I used data for *all* drug/dosage combinations (the 737 identified in footnote 22), the estimated inflation rates are the following: 3.54%; 3.87%; 3.83% and 3.07%.

reported in Figures F.2-F.4 are generally on the order of  $AA/AWP = 0.93$  to  $0.98$ . The value of  $AA/AWP$  for Viagra is actually greater than  $1.00$ . As noted above, if the IMS data really excluded all dispensing fees in the reported allowed amount for reimbursement,<sup>26</sup> then the IMS reimbursement allowed for  $IC = AA - df = AWP * p = AWP * (1-d)$ . In that case,  $AA/AWP = IC/AWP = p$  and should be found to equal  $0.83-0.87$  (that is,  $d = 13-17\%$ ). The fact that it does not corroborates my earlier finding that the reimbursement amount reported by IMS in their data includes some or all dispensing fees paid with the transaction. I incorporate that fact into my statistical analysis. I expect therefore that  $AA/AWP > 0.83-0.87$ .

### C. Statistical Analysis

26. In order to more systematically test the questions raised in ¶¶ 14 and 15 above, I take the merged data and create the following analytic measures and econometric equations. Starting with IMS survey of real world payments at retail denoted as  $AA$ ,

$$(1) \quad AA = AWP(1-d) + df = p * AWP + df = p * \lambda * WAC + df.$$

As above,  $p = (1-d)$ ; the dispensing fee is  $df$ ;  $\lambda = \lambda_{bf} = 1.20$  but for the Scheme; and  $\lambda = \lambda_a = 1.25$  as a result of the Scheme.

27. Two measures of average payment percentage (APP)<sup>27</sup> can be derived from  $AA$ , both of which can be used for quantitative analysis:

$$(2.a) \quad AA/AWP = p + df/AWP = \rho$$

$$(2.b) \quad AA/WAC = p\lambda + df/WAC = \phi = (p + df/AWP)\lambda = \rho\lambda = (AA/AWP)\lambda$$

These measures have already been presented in Figures F.2-F.4 for a variety of Appendix A and non-Appendix A drugs using IMS data for  $AA$ .

28. For  $APP = AA/AWP = \rho$ , I estimate regressions using data for  $i = 1-278$  drug/dosages over a time period  $t = 1-41$ , where  $t = 1$  in July 2001 and  $t = 41$  for November 2004, the last month for which I received FDB data.<sup>28</sup> More specifically, for drug 1

$$(3.a) \quad \rho_{1t} = p_t + df_t/AWP_{1t} + \xi_{1t} = p_0 + df_0/AWP_{11} + t\Delta p + t\Delta(df/AWP_1) + \xi_{1t} \\ = \alpha_0 + \alpha_1 t + \xi_{1t}.$$

In Equation (3.a),  $\alpha_0 = (p_0 + df_0/AWP_{11})$  = the average discount off AWP for drug/dosage  $i = 1$  plus the average dispensing fee paid over all reimbursement at retail for drug/dosage  $i = 1$  relative to the drug's AWP at the beginning of month  $t = 1$ .  $\alpha_1 = (\Delta p + \Delta(df/AWP_i))$

<sup>26</sup> See footnote 7.

<sup>27</sup> For ease of comparison with the results reported by Dr. Willig in his May, 2007 Declaration, I make use of his terminology – the average payment percentage (APP); see his Appendix C. As I note more fully below, while he defines APP in this fashion, he incorrectly formulates it in this Appendix at ¶ 5.

<sup>28</sup> I restrict my merged data set to 278 drug/dosages for which I have a complete time series and which do not reveal idiosyncratic anomalies; see footnote 22.

is the average of the sum of the monthly changes in average payment percentage (APP) caused by changes in  $p$  and  $df/AWP_{it}$ . Since I expect that  $\partial p/\partial t < 0$ ,  $\partial df/\partial t < 0$  and  $\partial AWP_{it}/\partial t \geq 0$  (for all  $i$ ),<sup>29</sup> I expect that  $\alpha_1 < 0$  and will measure the average monthly change of all three determinants of retail transaction prices. If  $\alpha_0$  and  $\alpha_1$  were constant across all drugs  $i$ , I could estimate Equation (3.a) over all drugs as follows:

$$(3.b) \quad \rho_{it} = p_t + df_t/AWP_{it} + \xi_{it} = p_0 + df_0/AWP_{i1} + t\Delta p + t\Delta(df/AWP_i) + \xi_{it} \\ = \alpha_0 + \alpha_1 t + \xi_{it}.$$

I do estimate Equation (3.b). However, while the components of  $\alpha_0$  ( $p_0$  and  $df_0$ ) may be constant over all drugs, this constancy cannot be assumed and should be tested statistically. Furthermore, even if constant for all  $i$ ,  $AWP_{i1}$  will not be constant over drugs  $i$ . Likewise, while some components of  $\alpha_1$  ( $\Delta p + \Delta df$ ) may be constant across drugs,  $\Delta AWP_i$  will not be. Therefore, this constancy should be tested statistically. I can test for variation in both  $\alpha_0$  and  $\alpha_1$  using a standard fixed-effects model of the following form:

$$(3.c) \quad \rho_{it} = \alpha_0 + \alpha_1 t + \sum_{i=1}^{N-1} \alpha_{2i}(\text{Drug-dummy}_i) + \sum_{i=1}^{N-1} \alpha_{3i}(\text{Drug-dummy}_i)*t + \xi_{it}.$$

In Equation (3.c),  $\langle \alpha_{2i} \rangle$  is a vector of  $N-1$  fixed effects (intercept) for all but one of the drug/dosage combinations  $i = 1-278$ . It measures *the deviation* in the value of APP in  $t = 1$  ( $\alpha_0 = \rho_0 + df_0/AWP_{11}$ ) for all drugs ( $\text{Drug-dummy}_i$ ) *relative to* the drug included in the intercept ( $i = 1$ ). Likewise,  $\langle \alpha_{3i} \rangle$  is a vector of coefficients estimating the *deviation* in the trend from the age trend ( $\alpha_1$ ) of the excluded drug  $i = 1$ .<sup>30</sup> An alternative formulation allows for calculation of the intercept and time trend for each drug as follows:

$$(3.d) \quad \rho_{it} = \sum_{i=1}^N \alpha_{0i}(\text{Drug-dummy}_i) + \sum_{i=1}^N \alpha_{1i}(\text{Drug-dummy}_i)*t + \xi_{it}.$$

29. Using Equations (2) and (3) for  $APP = AA/WAC = \varphi$ , I could formulate regressions of the following form:

$$(4) \quad \varphi_{it} = \lambda_{it} * \rho_{it} = \lambda_{it} * (\sum_{i=1}^N \alpha_{0i}(\text{Drug-dummy}_i) + \sum_{i=1}^N \alpha_{1i}(\text{Drug-dummy}_i)*t + \xi_{it}) \\ = (1.20 + 0.05 * \lambda_{\text{dum}_{it}}) * (\sum_{i=1}^N \alpha_{0i}(\text{Drug-dummy}_i) + \sum_{i=1}^N \alpha_{1i}(\text{Drug-dummy}_i)*t + \xi_{it}).$$

Likewise, I could formulate regressions for  $AA/WAC - AA/AWP = \varphi - \rho$  of the following form:

$$(5) \quad \varphi_{it} - \rho_{it} = \lambda_{it} * \rho_{it} - \rho_{it} = (\lambda_{it} - 1) * (\sum_{i=1}^N \alpha_{0i}(\text{Drug-dummy}_i) + \sum_{i=1}^N \alpha_{1i}(\text{Drug-dummy}_i)*t + \xi_{it}) \\ = (0.20 + 0.05 * \lambda_{\text{dum}_{it}}) * (\sum_{i=1}^N \alpha_{0i}(\text{Drug-dummy}_i) + \sum_{i=1}^N \alpha_{1i}(\text{Drug-dummy}_i)*t + \xi_{it}).$$

In Equations (4) and (5),  $\lambda_{it} = (1.20 + 0.05 * \lambda_{\text{dum}_{it}})$ , where  $\lambda_{\text{dum}_{it}} = 0$  when  $\lambda_{it} = 1.20$  and  $\lambda_{\text{dum}_{it}} = 1$  when  $\lambda_{it} = 1.25$  for all  $i$  and  $t$ .

<sup>29</sup> As noted by both Dr. Willig and I,  $p$  and  $df$  decline over time on average;  $\alpha_1$  also summarizes changes over  $AWP_i$  by  $t$ .

<sup>30</sup> I do so by interacting ( $\text{Drug-dummy}_i$ ) with  $t$  for all but one drug/dosage  $i$ . Using standard F tests, I confirm that the data require the use of a fixed-effects model rather than a random-effects model.



Equations (4) and (5) do not need to be estimated econometrically. The results would mirror the results found in Figures F.2-F.3. Specifically,  $\rho$  ranges from 0.93-1.01;  $\phi$  ranges from 1.13 to 1.20; while the difference ranges from 0.17-0.22. Indeed, the mean of  $\rho$  over all values = 0.97 for all drug/dosages included in the regression analysis (278). Since  $\phi - \rho = \lambda\rho - \rho = (\lambda - 1)*\rho = 0.20*\rho$  prior to the scheme and  $0.25*\rho$  after the Scheme, an increase of  $0.05*\rho$  implies an increase in the mark-up of 4.84% (in percentage points) at the mean.

30. For these models, I note the following hypotheses, as depicted in Figures F.1.b) and 1.c) and Figures F.2-F.4.

- a) Since the IMS data represents a sufficiently large and random sample,  $p$  and  $df$  for a given month in Equations (3.a)-(3.c) should be fairly constant across drugs, since the drugs would be reimbursed by a fairly similar sample of PBM/TPP/retail-network contracts. That is, reimbursements (AA) would be determined by the mix of PBM/TPP/retail network contracts reflecting the formularies in place by month. There could be variation across PBMs and retail networks, but these variations should not reveal themselves over drugs. This would suggest that fixed-drug-effects should for the most part be zero, unless there is considerable variation across  $df_0/AWP_{it}$ .
  - In this case, the average for  $\rho_{it}$  over the sample of transactions would be  $\alpha_0$  for  $t = 1$ .
  - If there were no change in  $d$ ,  $df$  and  $AWP_i$  over time,  $\alpha_1 = 0$ . Given the priors of the components of  $\alpha_1$ , I expect that  $\alpha_1 < 0$  over all drugs.
  - If there are variations in the discounts by drugs or groups of drugs, reflecting possibly some pattern of formulary placement, the fixed effects for those relevant drugs will be statistically different than zero.
  - If there are variations in changes in the discounts over time across drugs, the fixed effects for those drug-specific time dummies will be statistically different than zero.
- b) Under the same assumptions about the IMS data, if the Scheme had an impact it would be revealed as follows.
  - If the Scheme had an immediate impact and increased the amount (AA) paid by the Class “in direct relation to the increase in AWP”,<sup>31</sup>  $(\lambda - 1)*\rho$  should increase immediately by  $0.05*\rho$ . At the mean of the 278 drugs, this increase is  $0.05*0.968 = 0.0484 = 4.84\%$  (percentage points).
  - If the Scheme had an immediate impact and increased the mark-up paid by the Class “in direct relation to the increase in AWP”,<sup>32</sup> the AA/WAC should increase.

<sup>31</sup> March 28, 2002 ESI internal memo from Chris Macinski to Ryan Soderstrom, cited in footnote 8 above and introduced in full in ¶ 12.c) of Attachment D to this Declaration .

<sup>32</sup> *Ibid.*



- If the Scheme had a durable impact upon the mark-up of reimbursement rates at retail (AA) above WAC, the AA/WAC should remain inflated over time.
- If the Scheme had a immediate and durable impact upon AWP relative to WAC, which it did, the Scheme had an immediate and durable impact upon  $U\&C = (1+x\%)*AWP = (1+x\%)*\lambda*WAC$ , given the values of  $x\%$  observed in the market. As noted in footnote 9,  $x\%$  can be calculated from sources such as those cited in footnote 4 of this Declaration (and footnotes 25-27 of my March 2007 Rebuttal Declaration [GAO Report]) and apparently on a drug-by-drug basis using VeriSpan data.<sup>33</sup>  $\lambda = 1.20$  prior to the Scheme. With implementation of the Scheme, the uninsured cash payers' U&C amount was inflated to  $(1 + x\%)*1.25*WAC$ , since  $\lambda = 1.25$ . The inflation to uninsured cash paying consumers was  $\Delta U\&C = (1 + x\%)*0.05*WAC$ .
- If there are variations in the discounts by drugs or groups of drugs, reflecting possibly some pattern of formulary placement, the Scheme may have differential effects across the relevant drugs, both at the time of implementation of the scheme and over time after implementation of the Scheme.

31. I first examine the results of estimation of Equation (3.b), which provide market-wide evidence for the changes in the discounts off AWP and for the dispensing fee. Estimated over all drugs for which I have conformable data, I find that the average (discount and dispensing fee/AWP) in July 2001 was 0.97, an estimate which is highly significant statistically.<sup>34</sup> The results are presented in Exhibit F.1.a. This estimate implies that the average  $(p + df/AWP)$  for all reimbursements paid for all drug/dosages was about 3%, or  $(1-0.97) = 0.03$ . This measure is less than the value of  $p$  found in many TPP contracts, which ranges from 13-18%. However, it should be recalled that the IMS data include transactions paid by uninsured cash payers, who normally pay  $U\&C = AWP + x\%$ . Hence, the average discount over all transactions will be less than those paid by TPPs subject to PBM contracts. Likewise, it is clear that the IMS data include some measure of the dispensing fee, the inclusion of which raises the measured  $p$  for TPPs.<sup>35</sup>

The APP in Exhibit F.1.a declines at a rate of 0.000086 per month (or 0.0086 percentage points); this estimate is statistically different from zero at standard levels, revealing a small decline. Therefore, over all drugs, the aggregate sum of the changes in the APP ( $\Delta p + \Delta df/\Delta AWP$ ) is  $41*0.0086$  and is a reduction in 0.35 percentage points,

<sup>33</sup> Based upon the GAO sources,  $x\% = 9.9\%$  in 2000 and  $6.4\%$  in 2004, based upon a survey of retail transactions data (p. 4 of the GAO Report). At page 12 of the GAO report, the relationship of U&C to AWP for 50 brand drugs on a quarterly basis is presented. See footnote 9 above.

<sup>34</sup> The results are robust to formulation as linear or log linear. The results presented are OLS. I estimated several GLS specifications allowing for alternative variance-covariance matrix (V) estimators. Specifically, I used a seemingly-unrelated-regression (SUR) estimate of V and the White heteroskedastic contemporaneous-cross-section (White) estimate of V. The parameter estimates were of course unchanged; the statistical significance in some cases increased.

<sup>35</sup> For example, if  $df \approx \$2.50$  on an average script of 30 extended units (EU), then  $df/EU = \$0.083$ . If an average extended unit has an ingredient cost of \$1.00 (that is,  $IC/script$  is \$30.00) and  $IC = AWP - 15\%$ , then the AWP per EU is \$1.176. In this case,  $AA/AWP = (\$1.00 + \$0.083)/\$1.176 = 0.92$ .

estimated over all drugs in my sample over the period July 2001-November 2004 (41 months).

32. This measured decrease is much smaller than that suggested by Dr. Willig for a comparable period (2001-2004). For the 2001-2004 period, in Table 2 of his January 2007 Declaration, Dr. Willig found that the average discount rate,  $d$ , increases at retail from 13.9% to 14.8%. In terms of  $p$ , the discount declines from 0.861 to 0.852, a decrease in 0.9 percentage points over three years; or 0.3 percentage points per year; or 0.025 percentage points per month. This measure is nearly 3 times greater than the decrease in APP that I find using extensive real world IMS transactions data. In the same Table over the same period, Dr. Willig found that  $df$  at retail declines by \$0.26 or 11.8%; or 3.9% per year; or 0.33% per month. Over the same period, he finds that the AWP's for the Appendix A drugs increase from 9-16% per year (Table A1 of his May 2007 Declaration).<sup>36</sup> Hence, his estimate of the combined decrease in  $APP = (p + df/AWP)$  is much larger than I find in the IMS transactions data. Of course, his data are very aggregate, less extensive and less reliable.

33. The specification in Exhibit F.1.a imposes testable restrictions on fixed effects across drugs. I tested the validity of those restrictions and present that regression in Exhibit F.1.b.<sup>37</sup> I find that the average value of APP for all challenged drugs in period  $t = 1$  ranges from a high of 1.30 to a low of 0.90. The preponderance of APP's in period 1 cluster between 0.924 and 1.02 over all drug/dosages. All coefficient estimates are statistically significant, as expected.

The time trends of changes in the APP's are not uniformly negative as McKesson asserts. Of the 278 trend coefficients estimated, 108 are positive and 170 are negative. 32 of the positive time trends are statistically significantly different from zero; 61 of the negative time trends are statistically significantly different from zero; 185 are not different from zero statistically. With the GLS corrections, 81-89 of the negative trends become statistically significant; 35-40 of the positive trends become statistically significant; the rest are not statistically different from zero. Hence, at this level of disaggregation there is absolutely no evidence of systematic "push-back" or recoupment for Appendix A drugs. Evidence for these assertions by McKesson is simply not found in the data. At most, 89 of the 278 drug/dosages reveal statistically significant negative time trends in AA/AWP; at least 189 reveal time trends that are either positive or zero. These OLS results are presented in Exhibit F.1.c.

I conclude that changes in the AA and the ingredient costs over time relative to AWP are found to be described by drug-specific competitive factors, as each drug responds to specific therapeutic and/or generic competition. These competitive changes are independent of the Scheme.<sup>38</sup>

<sup>36</sup> More specifically, his annual average increase in Appendix A AWP's are 9.83%, 11.53%, 11.35% and 16.52% for 2001 through 2004 respectively.

<sup>37</sup> I reject the validity of the random effects model at a  $p$  value of less than .0001.

<sup>38</sup> For example, the AA of Claritin's 10 mg pill began declining relative to AWP in early 2003, a pattern that likely reflects the competitive effects of the December 2002 launch of an over-the-counter version of Claritin.

34. While the non-Appendix A drugs are not the subject of this litigation, assertions have been made by Dr. Willig and by McKesson's counsel about how "push-back", recontracting and recoupment on Appendix A drugs has led to Class-wide saving on non-Appendix A drugs. Indeed, arguments have been made that the extension of the "push-back" to non-Appendix A drugs has actually made the Class better off. I present statistical analysis testing those hypotheses for a subset of the important non-Appendix A drugs in Exhibits F.2.a-2.c.

35. In Exhibit F.2.a, when I assume that the value of  $\alpha_0$  and  $\alpha_1$  are constant across all drugs,  $APP = AA/AWP = (\rho_0 + df_0/AWP) = \alpha_0 = 0.970 = 97.0\%$  at the beginning of the period. On average,  $AA/AWP = APP$  decreases by  $-0.000046$  per month.<sup>39</sup> This decrease over time is also very small, about  $\frac{1}{2}$  the decrease found in Appendix-A drugs. It amounts to a decline of 0.0046 percentage points per month, or 0.19 percentage points over 41 months. As discussed in ¶ 32, this decrease is much less than that found by Dr. Willig in his aggregate data.

Once I allow for a full set of intercept and time-series fixed effects, I find that the values  $(p + df/AWP)$  at  $t = 1$  range from 0.76 to 1.38.<sup>40</sup> The measured time trends are mixed in sign. There are 152 positive, of which 25 are statistically significant. There are 137 negative, of which 33 are statistically significant. There are 231 which are not statistically different from zero. For the GLS estimates, at most 64 of the negative time trends are statistically significant and at most 73 of the positive time trends are statistically significant. The important finding is that the trends in  $APP = AA/AWP$  are positive or zero over the majority (225 out of 289) of drug/dosages taken individually. Hence, as with the Appendix A drugs, at this level of disaggregation, there is absolutely no evidence of systematic "push-back" or recontracting or recoupment with the non-Appendix A drugs. Changes in the AA and the ingredient costs relative to AWP are found to be described by drug-specific competitive factors, as each drug responds to specific therapeutic and/or generic competition.

36. Of primary importance for a finding of impact and injury is testing whether the Scheme did increase, immediately and over time, the amounts paid by Class members for the challenged drugs. Given the fact that statistical tests demonstrate that the APPs and changes in the APPs over time are best analyzed at the drug/dosage-specific level, I present the relevant results in Exhibit F.1.d for all Appendix-A drug/dosages for which I have consistent and quality-controlled data; that is for the 278 drug/dosages for which I have reported aggregate inflated mark-ups in my ¶ 22 above. I find that

- a) The preponderance of the calculations of the change in the mark-up (AA/WAC) in the immediate six months following implementation of the Scheme ranges from increases of 3 to 5 percentage points (that is, 3.00% to 5.00%, in percentage points).

<sup>39</sup> The OLS-estimated decrease is not significant at standard levels (the threshold being  $p = 0.05$  (95% confidence interval)). Some of the GLS estimates are marginally significant, at thresholds somewhat less 95%. Some are significant statistically.

<sup>40</sup> The lower bound value of 0.75 may reflect an outlier caused by an inappropriate linkage of a drug/dosage with an NDC. If so, that will not affect the basic findings here.

- b) There are cases where the immediate increase in the mark-up in AA/WAC exceeds 5%. For examples, the mark-up for Elocon (0.10%) increases by 7.43%; the mark-up for Temodar (250 mg) increases 6.12%; and the mark-up for Exelon (2 mg/ml) increases by 7.71%.
- c) There are also cases where the immediate increase in the mark-up is less than 3.00%; for examples, both dosages of Biaxin are less than 0.35%; all four dosages of Ceftin are less than 1.36%; all three dosage of Glucophage are less than 1.80%; and both doses of Mobic are less than 1.00%.
- d) There are limited cases in which the mark-up decreases; for examples, the mark-ups for the three doses of Depakote decrease by 0.26% (125 mg), 0.21% (250 mg) and 0.36% (500 mg).
- e) Closer scrutiny of the drug/dosages identified in ¶¶ 36.c) and 36.d)<sup>41</sup> reveals that while the Scheme was implemented for these drugs, some offsetting change in reimbursement relative to AWP and WAC occurred at exactly the same month of the change in the Spread to 1.25. The precise reason for this offsetting change in reimbursement relative to AWP or WAC is unclear; it is certainly not some systematic reaction to the Spread increase induced with the Scheme. The resulting impact upon the mark-up for these drug/dosages was generally consistent after the increase in the Spread; that is, there was no systematic change in the discount or dispensing fee that altered the post-Scheme APPs (that is,  $\rho = AA/AWP$  and  $\phi = AA/WAC$ ). However, inflation for these drug/dosages was less than that for all others. Since the damage methodology is designed and implemented at the drug/dosage level, these differences are explicitly reflected in the damage calculation. Specifically, if the mark-up in AA/WAC after implementation of the Scheme reveals no increase, there are no damages calculated for that drug/dosage.
- f) For all drug/dosages, the change in the mark-up is quite similar over the next three six-month periods, indicating that the immediate effect of the scheme on the mark-up was durable and was not “pushed-back”.

#### **D. Analytic Conclusions from the Quantitative Analysis**

37. The Scheme caused an immediate increase in the relationship between AWP and WAC for all challenged drugs. Since reimbursement for SADs at retail is determined by AWP, the amounts paid for the challenged SADs were consequently increased. Specifically, any given TPP that reimbursed at  $AA = AWP * p + df$ , where  $p$  and  $df$  varies across TPP, paid more in reimbursement. Any uninsured cash payer, who paid  $U\&C = (1 + x\%) * AWP$ , paid more. Unless there were immediate and offsetting changes in the primary determinants of reimbursement ( $p$ ,  $df$  and  $x\%$ ),<sup>42</sup> payments for a given TPP and a

<sup>41</sup> I find 19 (out of 278) such drug/dosages in the sample data.

<sup>42</sup> McKesson and Dr. Willig conjecture that innumerable changes in other terms such as rebates and pass-throughs could and did defeat the Scheme. However, those contractual reimbursement terms are of second-order importance to TPPs; of primary importance is the discount off AWP ( $p$ ) and the dispensing fee ( $df$ ). None of these contractual terms has any relation to uninsured cash payers.

given uninsured cash payer were inflated relative to WAC at the exact time of the implementation of the Scheme for each challenged drug.

38. The evidence demonstrates that Class members did not renegotiate the contractual arrangements governing drug reimbursement, even if TPPs knew that the Spread had been increased on some drugs. The evidence demonstrates that uninsured cash payers had no ability to negotiate changes in the relationship of U&C to AWP. There is evidence that reimbursement for a small number of challenged drugs experienced an immediate change in the relationship between reimbursement and AWP. The evidence demonstrates that this drug-specific response was largely idiosyncratic, limited and certainly unsystematic; the response seems to reflect manufacturer strategies rather than market responses to the increased Spreads induced by the scheme. To the extent that such immediate responses occurred for specific drugs, those responses are accounted for in my damage calculations.

39. Analysis of my sample data demonstrate the immediate increase between AWP and WAC induced by the Scheme. My analysis demonstrates that the Scheme caused an immediate inflation in the mark-up of the preponderance of the challenged drug/dosages of 3.00 to 5.00 percentage points. The mark-up for some drugs increased by more than 5.00 percentage points, while the mark-up for some drug/dosages increased by less than 3.00 percentage points. In a few cases the mark-up decreased with the implementation of the Scheme.

40. The immediate increase or change in the mark-up by drug was consistent for several years following the implementation of the Scheme. Hence, any argument that some or all Class member TPPs, either on their own or through their PBMs, were able to push-back or recoup the inflationary injury fails. Indeed, econometric analysis of reimbursement rates demonstrates that the Class was unable to push-back or recoup the inflationary injury induced by the Scheme for the challenged drugs and did not push-back or reduce reimbursement for those SADs not subject to the Scheme. There is no evidence of systematic mitigation or push-back through increases in discounts off AWP and/or decreased dispensing fees for challenged SADs (those in Appendix A) and for non-challenged drugs (the non-Appendix A drugs). Conjectural arguments to the contrary are unsupported by extensive reimbursement data; these assertions fail utterly.

41. It may seem strange that there is no systematic decrease in the AA/AWP found over my sample data, since  $p$  (recall that  $p = 1 - d$ ) and  $df$  were found to change (decrease) over time in the aggregate data put forward by Dr. Willig. The reasons seem to be the following. The time period of interest here is August 2001 through March 15, 2005. Over this period of time, the very aggregate measures of  $p$  and  $df$  put forward by Dr. Willig changed a small amount (see ¶ 32 above). At the level of disaggregation of my data (individual drugs and dosages for which reimbursement includes payments by TPPs, uninsured cash payers and Medicaid), individual drug/dosage-specific factors are found to dominate the broader trends. Measurement of the broader trends may reflect a sampling bias that predominantly summarizes those drug/dosages that do reveal a measurable decrease in  $p$ ,  $df$  and therefore AA/AWP. Once the analyst examines micro data by drug and dosage, the data demonstrate that drug-specific competitive factors determine changing patterns of AA/AWP, as each drug response to specific therapeutic and/or generic competition. Indeed, this proliferation of individual effects is always



masked by overall trend data.

42. Finally, as discussed in Section IV, my damage methodology will be implemented on a drug-by-drug basis, incorporating the individuality and specificity of the competitive conditions facing each drug and the extent of the impact of the Scheme on each drug. My ability to perform such an analysis drug by drug is made clear by the evidence in Exhibit F.1.

### III. CRITICAL REVIEW OF THE ECONOMETRIC ANALYSIS PUT FORWARD BY DR. WILLIG

#### A. Overview

43. At ¶¶ 53-64 and Appendix C of his May 2007 Declaration, Dr. Willig makes incorrect assertions regarding the regressions I presented in my March 2007 Declaration and the regression analysis he has put forward. He variously asserts the following (*emphases added*):

- a) “Dr. Hartman supports his assumptions to keep discounts and dispensing fees ‘constant’ in his formulaic damage methodology based in part on a *regression analysis of trends in AWP discounts and dispensing fees* before and during the class period. ... Because AWP has been growing over time, the time trend that Dr. Hartman finds could simply be capturing market responses to AWP inflation. Hence, to prove his point, *Dr. Hartman would need to show in his regression analysis that it is actually the time trend itself, rather than inflation in AWP over time*, that explains changes in discounts and dispensing fees” (¶ 53).
- b) “I [Dr. Willig] specified an econometric model that includes AWP inflation, and evaluates whether AWP inflation or a simple time trend better explains changes in discounts and dispensing fees. ... *The results ... show that overall AWP inflation does a better job than either a simple time trend or WAC inflation*” (¶ 54).
- c) “*Dr. Hartman is attributing to time the changes in discounts and dispensing fees rather than identifying the true cause of those changes. The analysis needs to incorporate AWP into the regressions* to look for evidence of whether changes in discounts and dispensing fees move with AWP, or whether the time trend is driven by some factor other than AWP. ... By not including a measure of AWP, Dr. Hartman’s model suffers from an omitted variable bias (¶ 57). Dr. Hartman hypothesizes that time is the sole driver of changes in the average payment percentage” (¶ 7, Appendix C, underline emphasis in original).
- d) “*The key question, then, is whether time itself or AWP growth does a better job explaining the decrease in the average payment percentage. Dr. Hartman’s theory is that discounts and dispensing fees are simply in a process of changing over time. My view is that these changes are driven by inflation in AWP*” (¶ 61).
- e) “*A standard econometric measure shows that once we account for the growth in AWP, adding a time trend does nothing to improve the model. This indicates that the time trend that Dr. Hartman found was likely standing in for the effect of AWP*

*inflation. Consequently, Dr. Hartman's conclusion that discounts simply grow over time and are not influenced by inflation in AWP is not supported by the data" (§ 61).*

- f) *"I also use this model to evaluate Dr. Hartman's position that discounts and dispensing fees respond to general inflation, but not to the additional inflation in AWP caused by the alleged scheme. If Dr. Hartman were correct, then it would be expected that general inflation in AWP (measured by inflation in WAC) would do a better job of explaining changes in discounts and dispensing fees than would overall inflation in AWP, which includes both general inflation and the AWP inflation caused by the alleged scheme. I check this by evaluating whether WAC inflation does a better job of explaining changes in discounts and dispensing fees than does AWP inflation. WAC inflation is a measure of the general inflation in AWP, without the added inflation resulting from the impact on the ratio between WAC and AWP from the alleged scheme. In contrast, AWP inflation captures both the inflation in WAC and the effect of changes in the AWP/WAC ratio due to the alleged scheme. ... To compare these alternatives, I constructed a measure of average WAC growth using FDB data on WAC and weights based on McKesson sales during the class period." (§§ 62-63).*

44. These assertions and purported analyses of Dr. Willig fail for the following reasons:

- a) I have never put forward a theory that time causes, or is the sole driver of, changes in discounts (d) and dispensing fees (df). No such theory is possible or exists. Dr. Willig is making this up. Any assertion that I have done so is a mischaracterization. I have performed no regression "analysis" of d or df. I have merely plotted over time the data that Dr. Willig introduced. While time does not cause changes in economic markets and economic variables, it is certainly standard analysis to observe changes in economic variables *over* time, without attributing those changes to time itself. That is what I did. I correctly observed no change in the pattern pre- and post-Scheme- implementation.
- b) However, Dr. Willig does put forward a casual model, claiming that AWP and changes in AWP "explain" or "account for" changes in d and df. He claims to have "specified an econometric model that includes AWP inflation, and evaluates whether AWP inflation or a simple time trend better explains changes in discounts and dispensing fees." In formulating this model, Dr. Willig makes a fundamental error in economic theory. In estimating this model and coming to the conclusions he reaches, he makes a fundamental error in econometrics. Specifically, he has ignored the simultaneity problem. He has noticed that three variables move together (AWP, d and df) with time, and he attributes causation where there is only correlation. Any undergraduate or graduate textbook in econometrics recognizes and warns against this basic error.<sup>43</sup> As I demonstrate below, all of the

<sup>43</sup> In the standard texts Dr. Willig cites, the basic issues of *simultaneity* and *simultaneity bias* are presented at pp. 180-190 of R. Pindyck and D. Rubinfeld, *Econometric Models and Economic Forecasts*, 2<sup>nd</sup> Edition, 1981 (which he cites in his footnote 65) and at pp. 396-397 of W. Greene, *Econometric Analysis*, 5<sup>th</sup> Edition (which he cites in his footnote 2 of Appendix C).



models and equations that Dr. Willig has specified and estimated suffer from simultaneity bias. All of the statistics to which he appeals demonstrating that his models are preferred are statistically biased and unreliable.

- c) In any market, the observed trajectory of list prices and transaction prices can be traced over time. However, those prices are determined by the underlying economic, institutional, technological and scientific facts and forces explaining demand, supply, and changes in demand and supply. Any economist analyzing markets understands that such facts and forces simultaneously determine the list prices of the products in a market (here the AWP and WAC of drugs) and the transaction prices of products in a market (here, the allowed reimbursement amount for a drug =  $AA = AWP (1-d) + df = WAC * \lambda (1-d) + df$ <sup>44</sup> and the U&C =  $((1 + x\%) * AWP)$ ). In the case of markets for SADs, these forces include, but are not limited to, the following:
- Supply factors determining the availability of all therapeutically competitive drugs (R&D spending, FDA approval processes and timing, patent litigation, production prices, strategic market positioning, direct-to-consumer (DTC) advertising, the mix of old and new drugs available by therapeutic class).
  - Demand factors including the prescribing pattern of doctors, the distribution of illnesses in the population, the attitudes and information of consumers (as affected in part by DTC advertising), the actions of managed care organizations, and the pattern of formulary designs by PBMs.
  - The structure, conduct and performance of the distributional entities in the market, including PBMs, network pharmacies and mail order pharmacies.
  - The conduct of such institutions such as the FDA, the OIG and CMS.
- d) The interaction of these forces of supply, demand and market equilibration simultaneously determine the prices at which drugs products are sold (AWPs, WACs, ds and dfs) and the quantities sold in a given time period. AWP does not determine d or df; d and df do not determine AWP. In his Appendix C, Dr. Willig has formulated no causal relationship that can be estimated meaningfully. The test statistics that he creates and upon which he relies to make his claim that AWP explains changes in d<sup>45</sup> better than the alternatives he posits (time and WAC), are biased, inconsistent and statistically meaningless. His results tell us nothing.
- e) Any causal analysis of df, d and AWP that ignores all of the forces identified above suffers from omitted variable bias. Dr. Willig's causal analysis ignores all of these other factors and suffers from omitted variable bias.<sup>46</sup>

<sup>44</sup> As recognized in Dr. Willig footnote 67. Therein he defines the average payment percentage C and  $AA/AWP = (1-d) + df/AWP$ . I will use  $C = APP$  (average payment percentage) interchangeably.

<sup>45</sup> Which he measures as the "average payment percentage," defined in the previous footnote as  $APP = C$ .

<sup>46</sup> Dr. Willig knows of this bias; he attributes it to my estimated time trend (at ¶ 57 of his May Declaration). However, omitted variable bias occurs when a casual model is specified; an important variable is omitted; and variation in the variable being explained is incorrectly attributed to an included variable. Since I am merely observing changes in a variable over time, I do not attribute the changes in that

- f) Furthermore, he posits alternatives models and incorrectly attributes them to me. As I stated above, I have never posited time as a casual factor for explaining d or df. I also have never posited WAC as a causal factor of d and df.
- g) Dr. Willig simply has missed the point of why I regressed d and df against time. Time is exogenous and therefore uncorrelated with the error term. As a matter of econometrics, I have calculated a statistically unbiased measure of how d and df change *with time, not because of time*. I do not claim that time causes those changes. All the other factors cited above (§ 44.c) are changing to induce the measured changes in d and df. I merely observe how d and df change over time and see no change in the pattern before and after the implementation of the Scheme. Since the estimates from my regressions are not meant to estimate causal parameters, they do not suffer from omitted variable bias. My regressions merely summarize the movements over time in all of those other variables. And the pattern of that movement is not changed by the Scheme, as Dr. Willig asserts but does not prove.
- h) Dr. Willig does not demonstrate that increases in AWP stand in for time in determining changes in d and df.

## **B. More Detailed Technical Analysis**

45. Intuitively, simultaneity in economics and econometrics occurs when a set of variables, such as list and transaction prices, are simultaneously determined by other factors. When that occurs, the observed variables are certainly correlated; however, they are not necessarily casually related.<sup>47</sup>

In this case, AWP, WAC, d and df are determined simultaneously by the factors identified in (§ 43.c). These variables are certainly correlated. AWP and d have simultaneously increased over time. However, do increases in AWP cause increases in d? Alternatively, do increases in d cause increases in AWP? Both hypotheses are valid.<sup>48</sup> Dr. Willig has observed this simultaneity and concluded causation in one direction. However, he has neither demonstrated not proven such causality.

46. When simultaneity exists in econometrics, the independent variables in the

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variable to time. I cannot be accused of omitted variable bias. Dr. Willig certainly can. He has posited a casual model relating d or APP to time and AWP; he has not accounted for all the other factors determining d and df introduced above.

<sup>47</sup> The example of the simultaneity problem I used to give my undergraduate econometric students is the following. After World War I, a world-wide influenza epidemic occurred. In centrally planned Russia, the central government sent doctors to rural peasant villages to combat the disease. The peasants observed that doctors came to their village as influenza was killing their fellow villagers. Their conclusions: 1) Doctors cause influenza, 2) Kill the doctors.

Dr. Willig's modeling leads to similar incorrect conclusions. AWP and d increase simultaneously. Increases in AWP cause increases in d.

<sup>48</sup> Under the first hypothesis, TPPs negotiate higher discounts off AWP as AWP increases. Under the second hypothesis, retailers push for higher AWP's precisely because increased d is reducing their profits. Indeed, the second hypothesis has been recognized by the Court as grounds for the Scheme.

regression are correlated with the underlying error process. It is well known that if OLS is used in such situations, simultaneity bias exists in the model estimates. By construction, all of Dr. Willig's independent variables of choice (his measure of AWP inflation) are correlated with his error processes. His OLS estimators therefore suffer from simultaneity bias. They are meaningless; the statistics that he derives are meaningless. His regression analysis has no evidentiary value.

47. Specifically, in his Models 2, 3 and 5 (of his Attachment C), he regresses the log of the average payment percentage (which he correctly defines in footnote 67 as  $C = AA/AWP = (1-d) + df/AWP$ <sup>49</sup>) against several independent variables including the AWP. Therefore his Models 2, 3 and 5 are all of the following form:

$$(6) \quad \log APP = \log (AA/AWP) = \alpha_0 + \alpha_1 * \log (AWP \text{ Index}) + \alpha_2 * \text{Other variables} + \varepsilon$$

By Equation (6) and the construction of his variables, the error process  $\varepsilon$  is correlated with AWP; or  $E(AWP'\varepsilon) \neq 0$ . Therefore,  $E(AWP\text{Index}'\varepsilon) \neq 0$ . Therefore, OLS estimation of Equation (6) (that is, OLS estimation of all of Dr. Willig's preferred models) violate the basic Gauss-Markov assumptions of econometrics. His parameter estimates are inconsistent and biased; his estimates of the underlying regression statistics are inconsistent and biased (that is, his  $R^2$  and his AICs). His regressions tell us nothing about any casual relationship between APP and AWP, except for the fact that APP is arithmetically calculated using AWP.

48. Indeed, it is precisely because of simultaneity by construction that he finds that his measure of APP is better correlated with AWP than with time. It certainly should be. He constructed directly from AWP; that is,  $APP = AA/AWP$ .

49. One can regress APP against time, since time is certainly an independent variable. That is what I did originally, in the form of the components of APP,  $d$  and  $df$ . Dr. Willig does the same thing in his Model 1. The results of estimating that model are statistically consistent and unbiased. They do not provide a causal model. They merely confirm what I have demonstrated before. That is, that there is no measurable change in the time pattern of  $d$  and  $df$  corresponding to the implementation of the Scheme.

50. A third problem with Dr. Willig's regression analysis is measurement error,<sup>50</sup> which is known to cause biased and inconsistent parameter estimates. Dr. Willig does not use real claims data or transactions data, which are the real basis for the definition of  $APP = (1-d) + df/AWP$ . Instead he creates much of the aggregate data that he uses as indices. The creation of his data is presented in ¶¶ 2-5 of his Appendix C; his principal formula for his dependent variable is given in his ¶ 5 and is stated incorrectly. If that is how he calculated APP, it is measured incorrectly. In all of his regressions, he uses aggregated indices that have an unclear relationship to the reality of the definition of  $AAP = AA/AWP = (1-d) + df/AWP$ . The fact that it is unclear just what he is measuring

<sup>49</sup> Which he inexplicably defines incorrectly in ¶ 5 of his Appendix C as  $APP = C = (1-d) + df/\text{Ingredient Cost}$ . The Ingredient Cost does not equal the AWP, which he recognizes with the correct calculation in his footnote 67.

<sup>50</sup> Referring to the econometric texts that Dr. Willig has introduced, Pindyck and Rubinfeld, *op. cit.* discusses this bias at pp. 176-178; Greene, *op. cit.* discusses it at pp. 75, 83-90.

is emphasized by the analysis that I have conducted in Section II. Therein I use surveyed averages of actual transaction amounts, AA, and the actual AWP and WAC related to those transactions. The use of such micro data is recognized as preferable to “created” aggregate data.

#### IV. IMPLICATIONS FOR THE CALCULATION OF DAMAGES

51. The analytic measure put forward in Exhibit F.1.d presented the absolute and percentage increases in the mark-up above WAC by drug/dosage from the period prior to the implementation of the Scheme to four six month periods after the implementation of the Scheme. More specifically, letting  $\phi_{bf} = \sum_t (AA/WAC)_t / 6$  for the six months prior to implementation of the Scheme and letting  $\phi_a = \sum_t (AA/WAC)_t / 6$  for each of the four sequential 6-month periods after implementation of the Scheme, the measure of absolute increase in the mark-up are given by  $(\phi_a - \phi_{bf})$  and measures of percentage increase are given by  $(\phi_a - \phi_{bf})/\phi_{bf}$ . For example, for one of the five drugs emphasized by Dr. Willig, Lipitor 20mg, I presented the following values in Table F.1 for the 20 mg dosage.

Periods compared	$(\phi_a - \phi_{bf})$	$(\phi_a - \phi_{bf})/\phi_{bf}$
6 months before to months 1-6 after	4.22	3.74
6 months before to months 7-12 after	4.44	3.93
6 months before to months 13-18 after	4.49	3.98
6 months before to months 19-24 after	4.70	4.17

These measures indicate by how much the Scheme increased the mark-up relative to what it should have been absent the Scheme. In order to calculate by how much the actual post-Scheme mark-up should be reduced in order that the but-for mark-up prevail,  $(\phi_a - \phi_{bf})$  still measures the absolute change. However, the percentage reduction is calculated as  $(\phi_a - \phi_{bf})/\phi_a = x\%$ .

52. Given observed values of  $(AA_a/WAC_a)$  for some period or some month post Scheme implementation, the but-for mark-up of  $AA_{bf}$  relative to that actual  $WAC_a$  should be  $(AA_{bf}/WAC_a)$ , or  $\{(AA_a/WAC_a) - (AA_{bf}/WAC_a)\}/(AA_a/WAC_a) = (\phi_a - \phi_{bf})/\phi_a = x\%$  less. Hence,  $(AA_a - AA_{bf})/AA_a = x\%$ . The actual allowed amount should be reduced by  $x\%$  absent the Scheme. Hence the damages resulting per EU or per script from the Scheme are given by  $AA_a * x\%$  for Lipitor 20mg, using the measures discussed above. Total damages for any period of time post-Scheme are given as total reimbursement for Lipitor 20 mg \*  $x\%$ .

53. This calculation can be implemented monthly, allowing for all variation in the underlying terms affecting the APP (that is, in d and df, since  $\phi = (AA/WAC) = (AWP(1-d) + df)/WAC$ ). To implement it monthly, I perform the following calculations. I let  $\phi_{bf} = \sum_t (AA/WAC)_t / t$  for the three months prior to the implementation of the Scheme for each specific drug/dosage (i.e., the simple average of  $\phi_{bf}$  for the three months prior to the Scheme). I calculate  $\phi_t = (AA_t/WAC_t)$  for every month t,  $t \geq$  the month of the implementation of the Scheme for the specific drug/dosage. I calculate  $x_t = (\phi_t - \phi_{bf})/\phi_t$  for every month  $t \geq$  month of Scheme implementation. Total damages ( $D_t$ ) by month due to the scheme for this drug/dosage are therefore  $D_t = (\text{total } AA_t) * x_t$ .  $D_t$  can be summed by all relevant months t and all drug/dosages of all drugs in Appendix A.

54. Note that this formulation is drug/dosage specific and takes account of the actual pattern of changes in mark-ups that occurred with the implementation of the Scheme. For example, I noted in ¶ 36.c) that the increase in the mark-up for some drug/dosages was less than the average. For those drug/dosages, the measure of damages will be less than the average, because I use the same data (in reverse) to calculate damages as I used in the calculations in ¶ 36.c). Likewise, for a limited number of drug/dosages identified in ¶ 36.d), the mark-up decreased with the implementation of the Scheme. For these drug/dosages, the damages calculated using the methodology put forward here will be negative; these drugs will receive a credit against damages.

55. I use real world IMS data to estimate total reimbursement for the drug/dosages in Appendix A at retail pharmacies over the Class Period. Those IMS data do not include mail-order pharmacy reimbursements. Using publicly available information, I calculate the additional reimbursements through mail order for the challenged drugs. I discuss the precise method in the notes to Exhibit F.3. I have yet to receive the FDB data for AWP and WAC for the Class months December 2004 through March 2005. I therefore take as my measure of mark-up,  $\phi_t = (AA_t/WAC_t)$ , for  $t =$  December 2004 through March 2005, the measure for November 2004, the last month for which I have consistent FDB and IMS data. Once I receive the FDB data, I can supplement this damage calculation with that actual data. Given the constancy of the measured mark-ups post-Scheme implementation, it is unlikely that the actual data for these four months will provide damages estimates that differ to any degree.

56. I calculate damages monthly for each drug beginning in the month that the Scheme was implemented. Hence, the damages for those drugs for which the Scheme was implemented in, say, the last quarter of 2001 are demonstrated to continue through and are calculated through March 2005. The damages for those drugs for which the Scheme was implemented in, say, the first quarter of 2003 are demonstrated to continue through and are calculated through March 2005. I provide estimates of total damages by year in Exhibit F.3.a and by quarter in Exhibit F.3.d. Total damages are presented below in Table F.2.

57. My analysis of actual reimbursement data demonstrates that once the Scheme impacted a given drug, the damages continued to the end of the Class Period. However, should the Court decide to limit the damages to one year of the Class Period, my damage calculations can be aggregated for those drugs and those quarters. Should the Court decide to limit damages to one year from the time of the implementation of the Scheme for *each* drug, my damage calculations can be aggregated for those drugs and for those years and quarters. Should the Court decide to limit damages to the average duration of PBM contracts, which I understand to be approximately three years, my damage calculations can be aggregated for those drugs and those years. As I have calculated in Exhibit F.3.b and presented in Table F.3 below, the Court could limit damages to two years after March 2002 – the peak of the Scheme – which would extend damages through March 2004. Or, as I have calculated in Exhibit F.3.c and presented in Table F.4 below, the Court could limit damages to one year after March 2002 – the peak of the Scheme – which would extend damages through March 2003. Should the Court decide to limit damages based upon some other criteria, my damage calculation should be sufficiently flexible to allow for such criteria.

58. Aggregate total damages are calculated using the IMS reimbursement data and the percentage mark-ups calculated above. Figure F.5 demonstrates how total aggregate damages are allocated among those payer groups for whom impact and injury are clear and for whom damages can be apportioned (see also the notes to Exhibit F.3). I attribute and calculate those damages as follows. Total damages arise on reimbursement by TPPs, uninsured cash payers and Medicaid insureds. I exclude damages under Medicaid. However, I calculate damages to uninsured cash payers, because as a matter of economics, those payers were impacted and injured and their aggregate damages can be calculated. I have discussed how those damages (U&C-based) are formulaically related to Scheme in ¶¶ 30.b) & 37 and footnotes 9 & 33 above. Those damages account for 9.3% of the total. 78.8% of the total is accounted for TPPs generally, of which 74.4% is non-governmental.<sup>51</sup> Of this remaining 74.4%, 87% have flat copays while 13% have coinsurance. The Scheme will have had a *de minimis* effect on formulary placement; therefore, the flat copay amounts will not change. The total damages will therefore have been borne by the TPPs and are compensable to the TPPs. Of the 13% of TPPs with coinsurance, coinsurance accounts on average for 25% of the reimbursement. Hence, 25% of these damages will have been borne by the consumers and are compensable to them; 75% of these damages will have been borne by the TPPs and are compensable to them.

59. Using this attribution formulation and the other components of my model I have been able to decompose total damages into these constituent groups. That allocation appears in Exhibits F.3.a-F.3.d and Tables F.2-F.4, in current and constant (June 2007) dollars.

**Table F.2: Summary of Damages Through March 2005**  
(all figures in millions \$)

<b>Class</b>	<b>Total Nominal Damages</b>	<b>Total Damages with Prejudgment Interest</b>
Class 1: Consumers Paying Coinsurance	\$188 M	\$214 M
Class 2: Third-Party Payers	\$5,437 M	\$6,845 M
Proposed Class 3: Uninsured Cash Payers	\$722 M	\$822 M
<b>Total</b>	<b>\$6,348 M</b>	<b>\$7,880 M</b>

<sup>51</sup> 4.4% of all TPP reimbursement reflects other government entities.



**Table F.3: Summary of Damages Through March 2004****(all figures in millions \$)**

<b>Class</b>	<b>Total Nominal Damages</b>	<b>Total Damages with Prejudgment Interest</b>
Class 1: Consumers Paying Coinsurance	\$124 M	\$142 M
Class 2: Third-Party Payers	\$3,586 M	\$4,614 M
Proposed Class 3: Uninsured Cash Payers	\$476 M	\$547 M
<b>Total</b>	<b>\$4,187 M</b>	<b>\$5,303 M</b>

**Table F.4: Summary of Damages Through March 2003****(all figures in millions \$)**

<b>Class</b>	<b>Total Nominal Damages</b>	<b>Total Damages with Prejudgment Interest</b>
Class 1: Consumers Paying Coinsurance	\$63 M	\$73 M
Class 2: Third-Party Payers	\$1,825 M	\$2,399 M
Proposed Class 3: Uninsured Cash Payers	\$242 M	\$281 M
<b>Total</b>	<b>\$2,131 M</b>	<b>\$2,753 M</b>

60. A further adjustment to TPP damages could be made if the rebates received by TPPs increased as a result of the Scheme. Rebates to third-party payers are typically paid through PBMs in the form of access, administrative, performance and/or market share rebates. The rebate amounts are often determined as a percentage of manufacturers' list prices, either WAC or AWP. Rebates paid by manufacturers to PBMs are generally about 5% of drug spending.<sup>52</sup> However, not all rebates paid to PBMs flow through to the

<sup>52</sup> See Kaiser Family Foundation, Prepared by Mathematica Policy Research, Inc., *The Role of PBMs in Managing Drug Costs: Implications for a Medicare Drug Benefit*, January 2000, p. 20 and Congressional Budget Office, *Prescription Drug Pricing in the Private Sector*, January 2007, p. 16. See also David H.



TPP. Although the amount of rebate pass-through, i.e. the percentage of rebate dollars passed through to the TPP, is typically a closely-guarded secret among PBMs, one study found that among a subset of surveyed PBMs, the amount of rebate pass-through ranged from 9% to 75%, with a median of 54%.<sup>53</sup> Therefore, on average, TPPs receive about 2.7% of drug spending as rebates (i.e.,  $5\% * 54\% = 2.7\%$ ).

61. If rebates are calculated as a percentage of WAC, there will be no change in rebates due to the scheme. If calculated off of AWP, the damages calculation can be adjusted as follows. TPPs receive rebates that are on average about 2.7% of total drug spending. If we make the conservative assumption that *all* of these rebates are calculated as a percentage off of AWP, then damages should be adjusted downward by 2.7%. Therefore, total nominal damages in Table F.2 for TPPs have been reduced by \$151 million. I reduce total nominal damages to TPPs in Tables F.3 and F.4 analogously.

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Kreling, "Cost Control for Prescription Drug Programs: Pharmacy Benefit Manager (PBM) Efforts, Effects, and Implications, A background report prepared for the Department of Health and Human Services Conference on Pharmaceutical Pricing Practices, Utilization and Costs," August 8-9, 2000, Georgetown University, Washington, DC available at <http://aspe.hhs.gov/health/reports/Drug-papers/Kreling-Final.htm>, accessed September 7, 2007.

<sup>53</sup> See Federal Trade Commission, *Pharmacy Benefit Managers: Ownership of Mail-Order Pharmacies*, August 2005, p. 59, Table III-1. Data cited are from 2002 and 2003. Note that the pass-through percentage is 1 – the PBM retention rates cited in this document.

**ATTACHMENT F: FIGURE F.1**

Figure F.1.a. Scheme Impacts

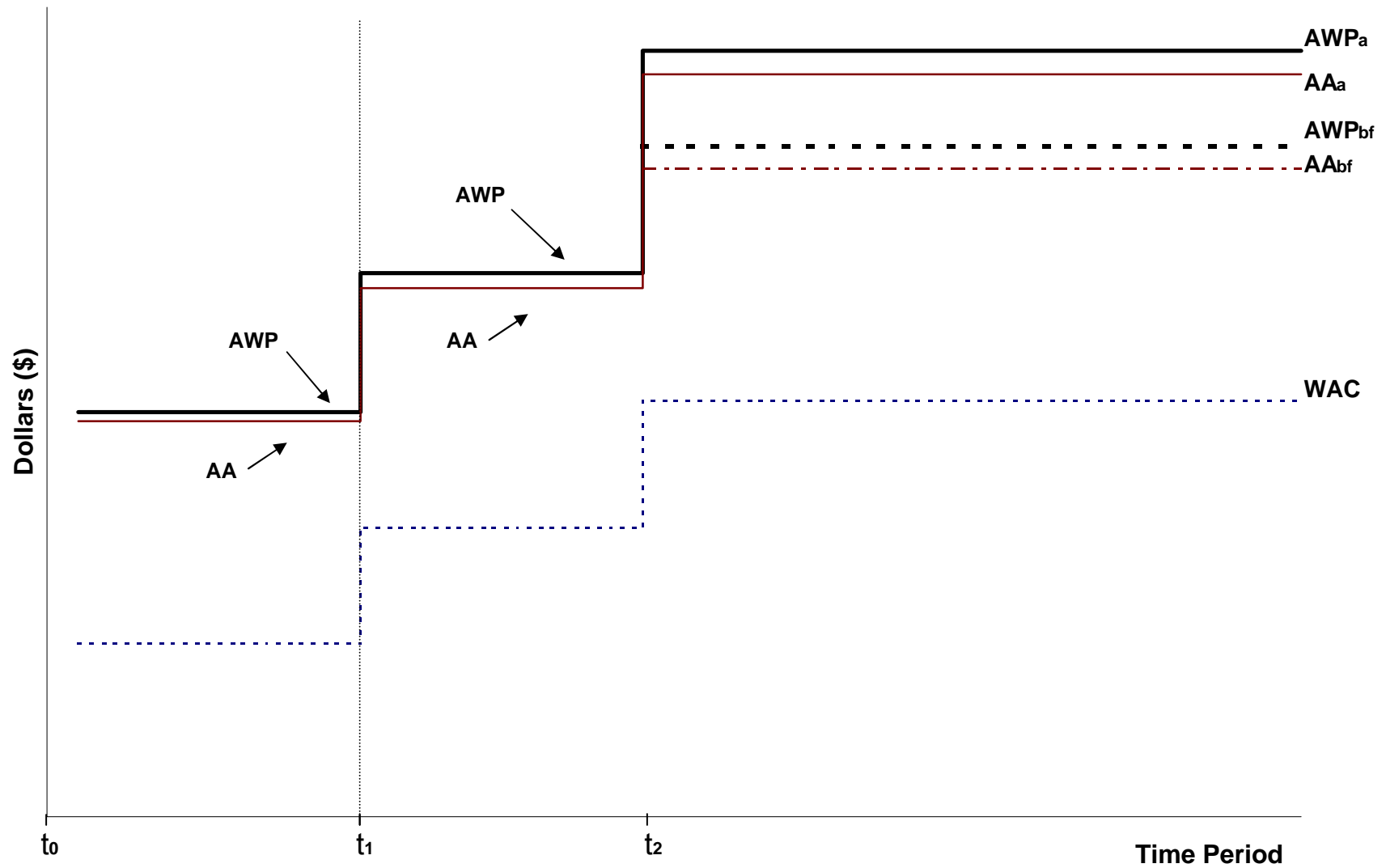


Figure F.1.b. Possible Recoupment Scenarios

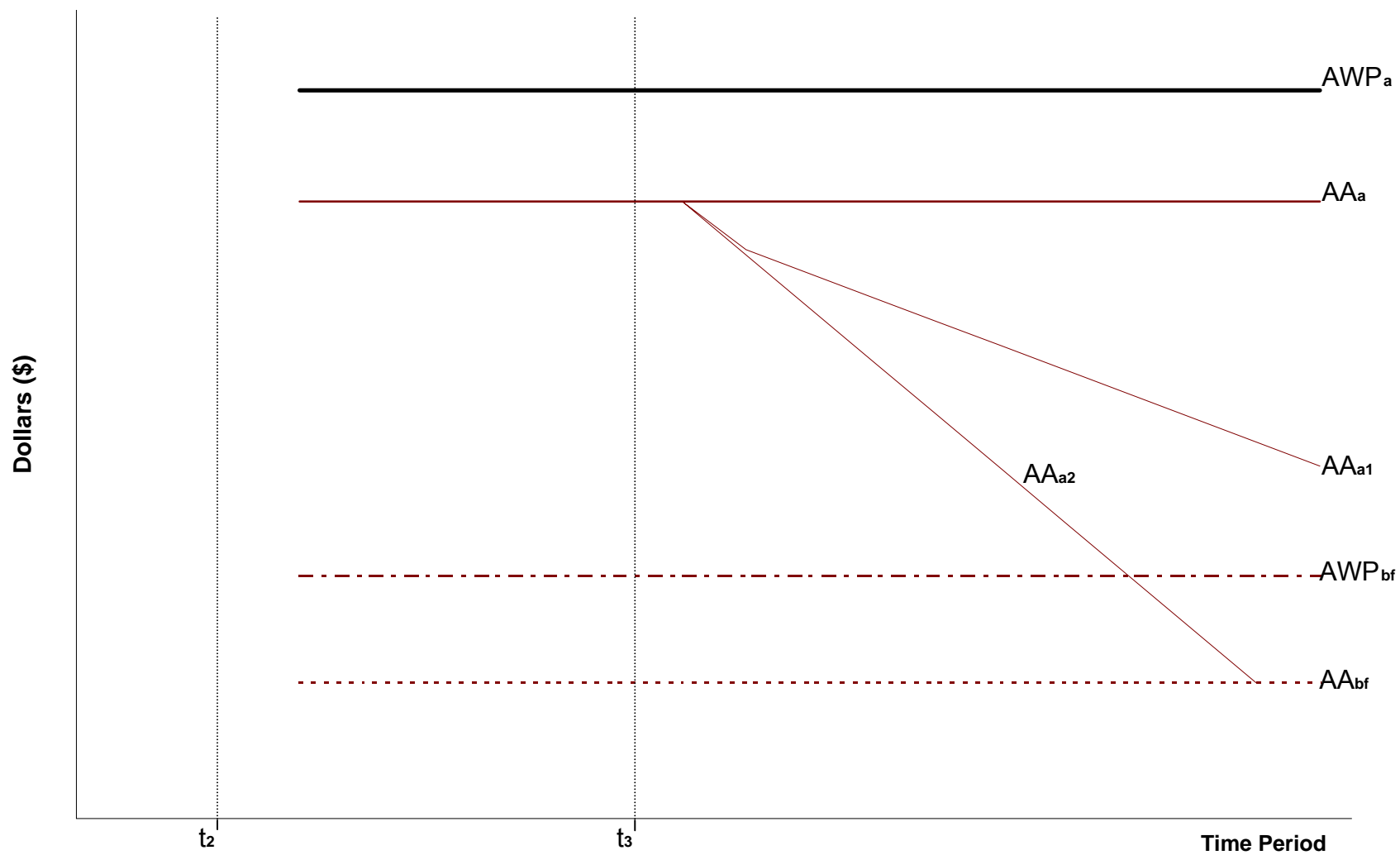
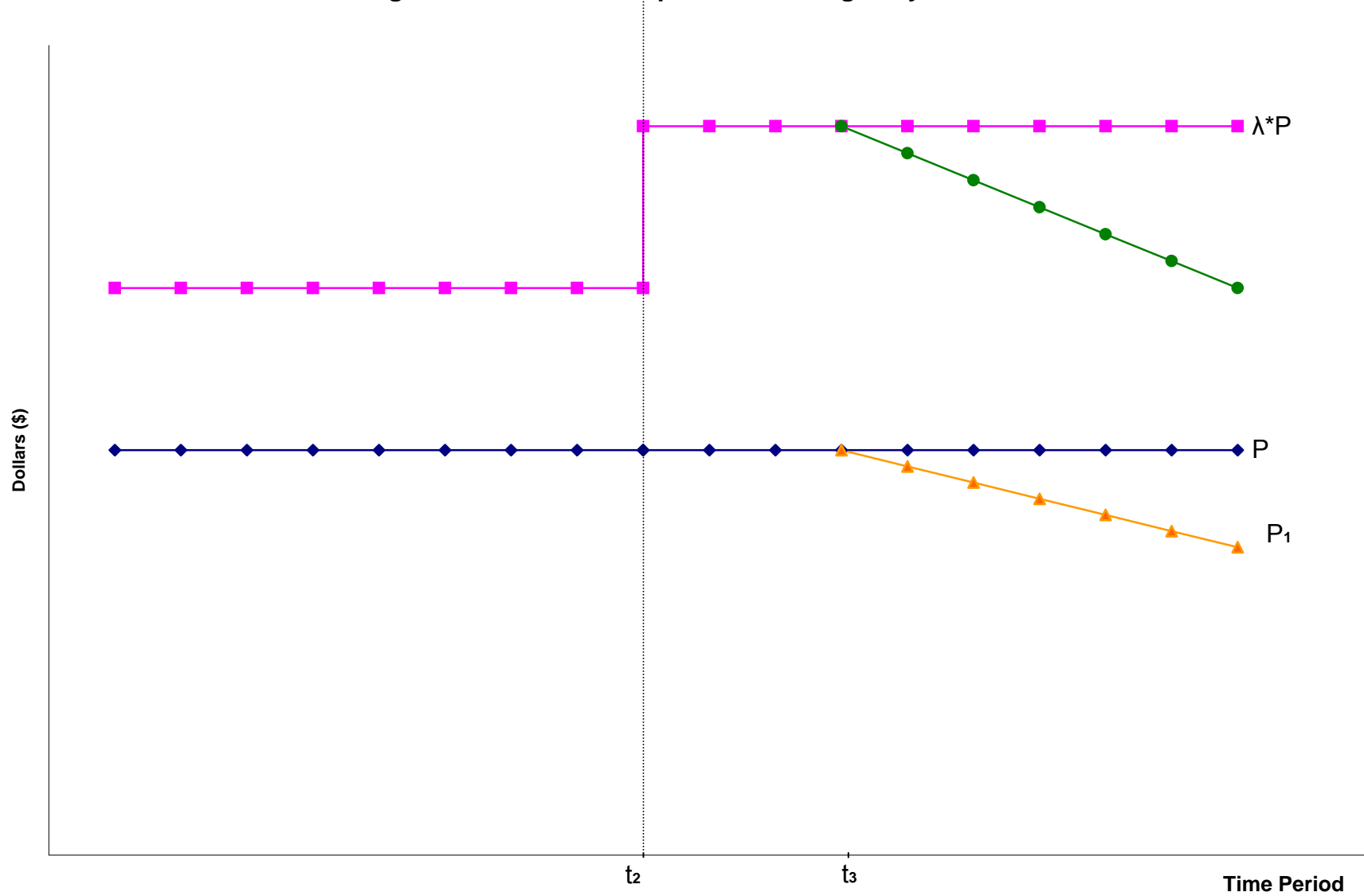


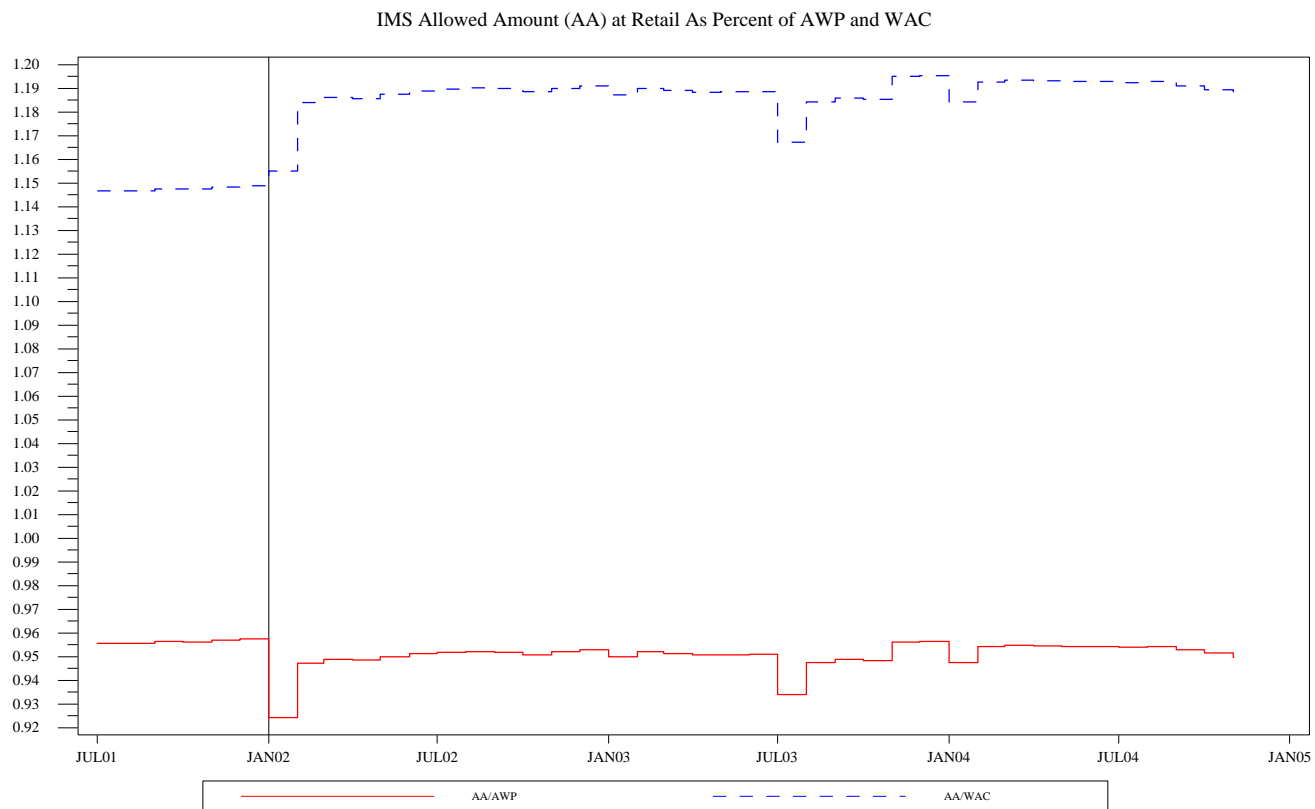
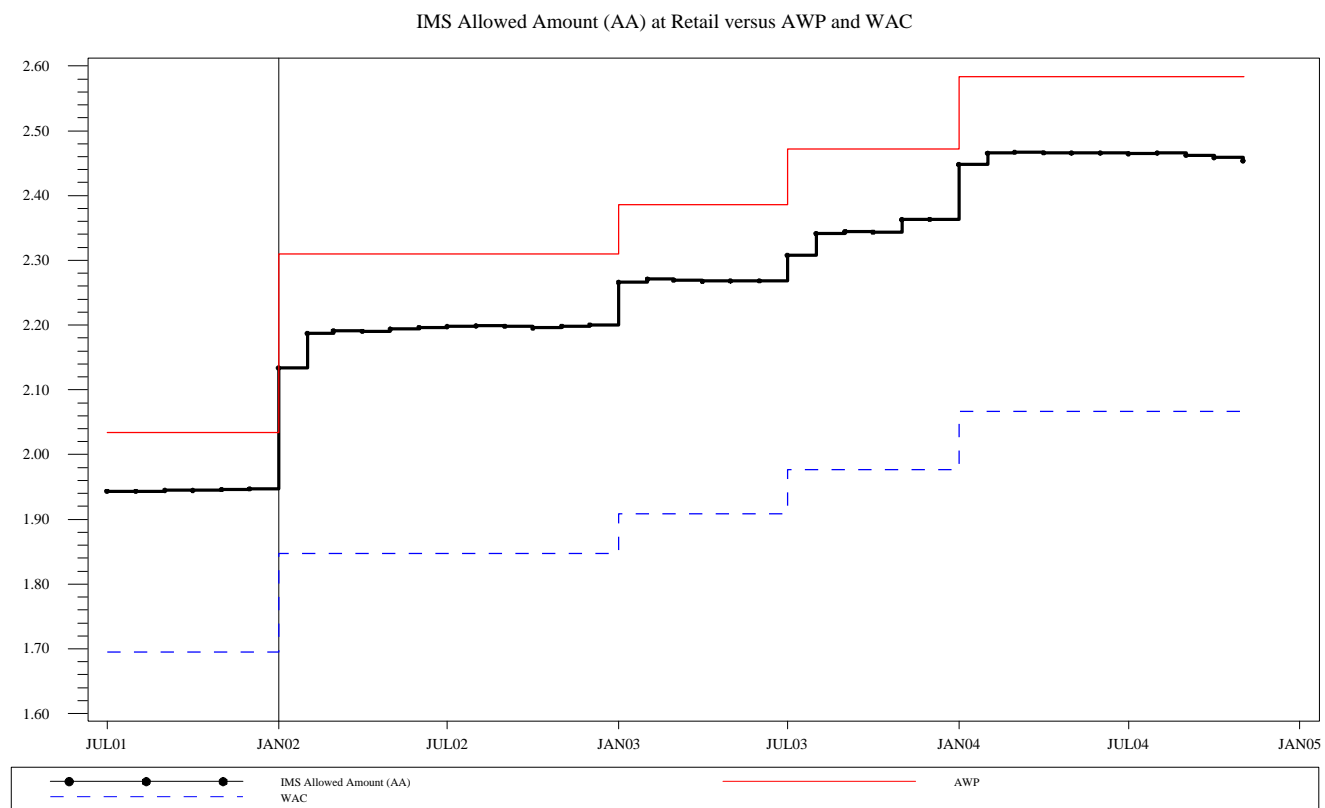
Figure F.1.c. Scheme Impacts on Average Payment Ratios



**ATTACHMENT F: FIGURE F.2**

Figure F.2.a

## LIPITOR 10MG



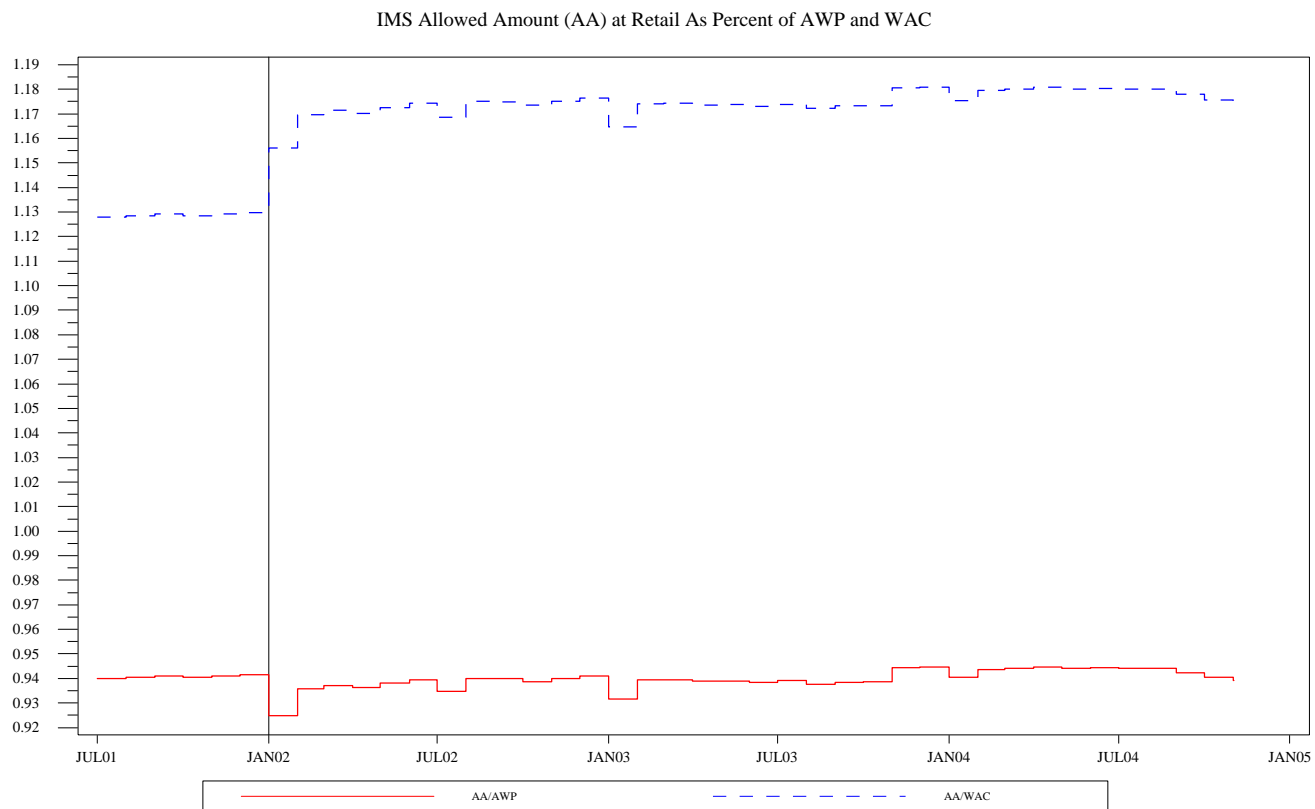
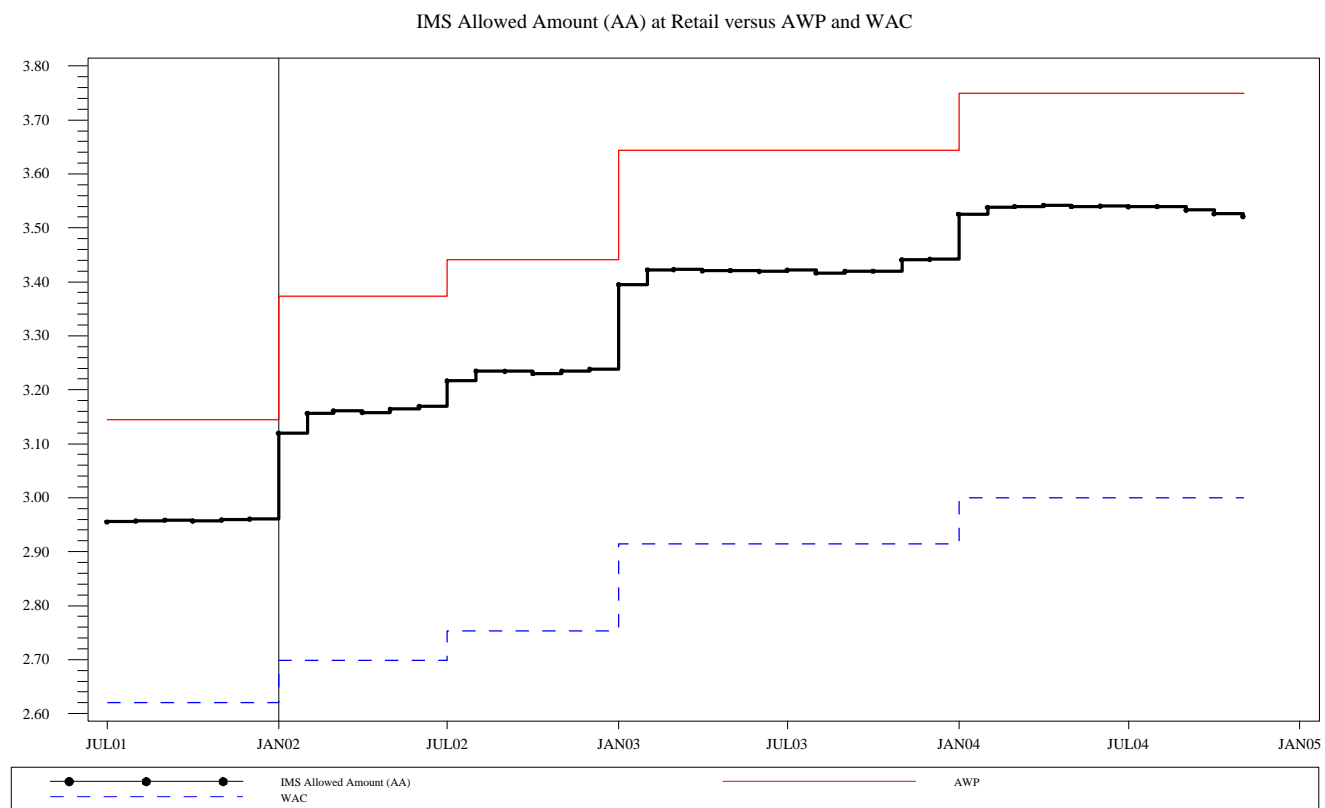
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*



Figure F.2.b

## LIPITOR 20MG

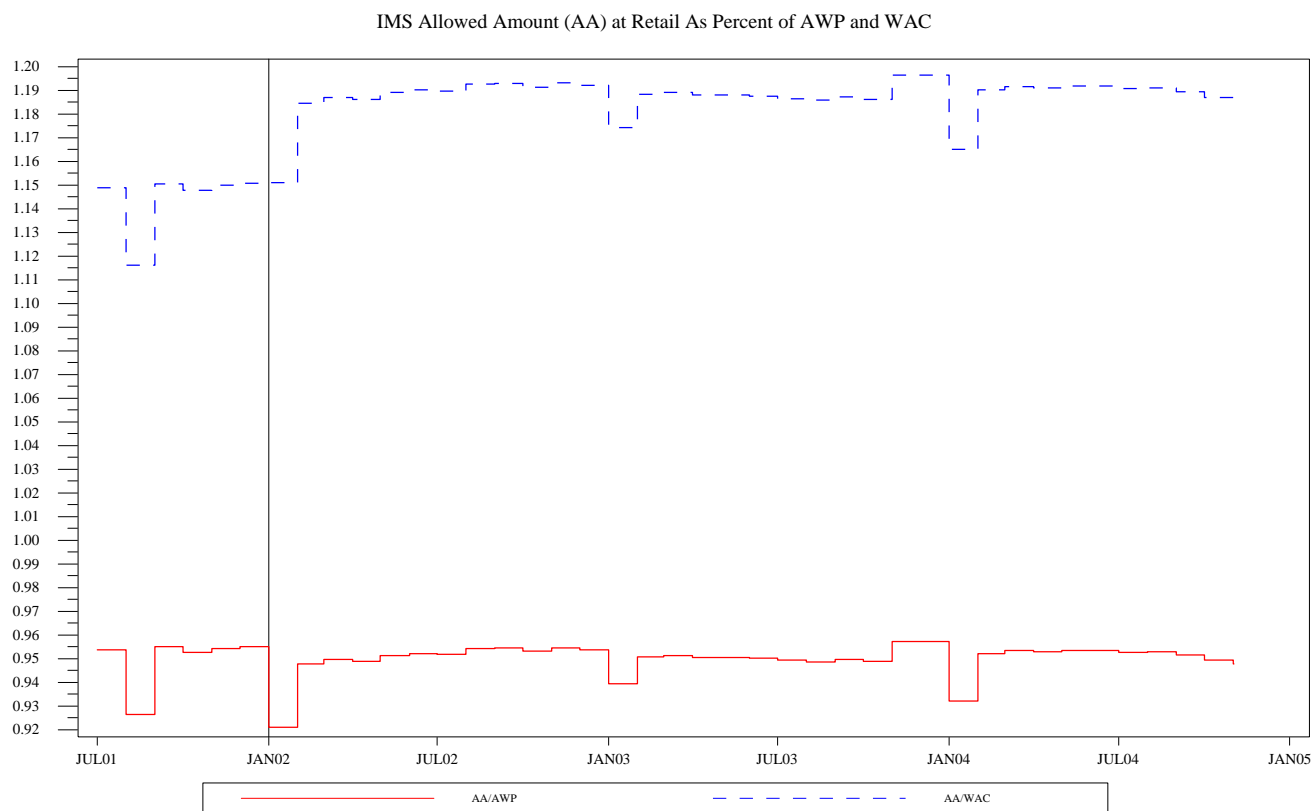
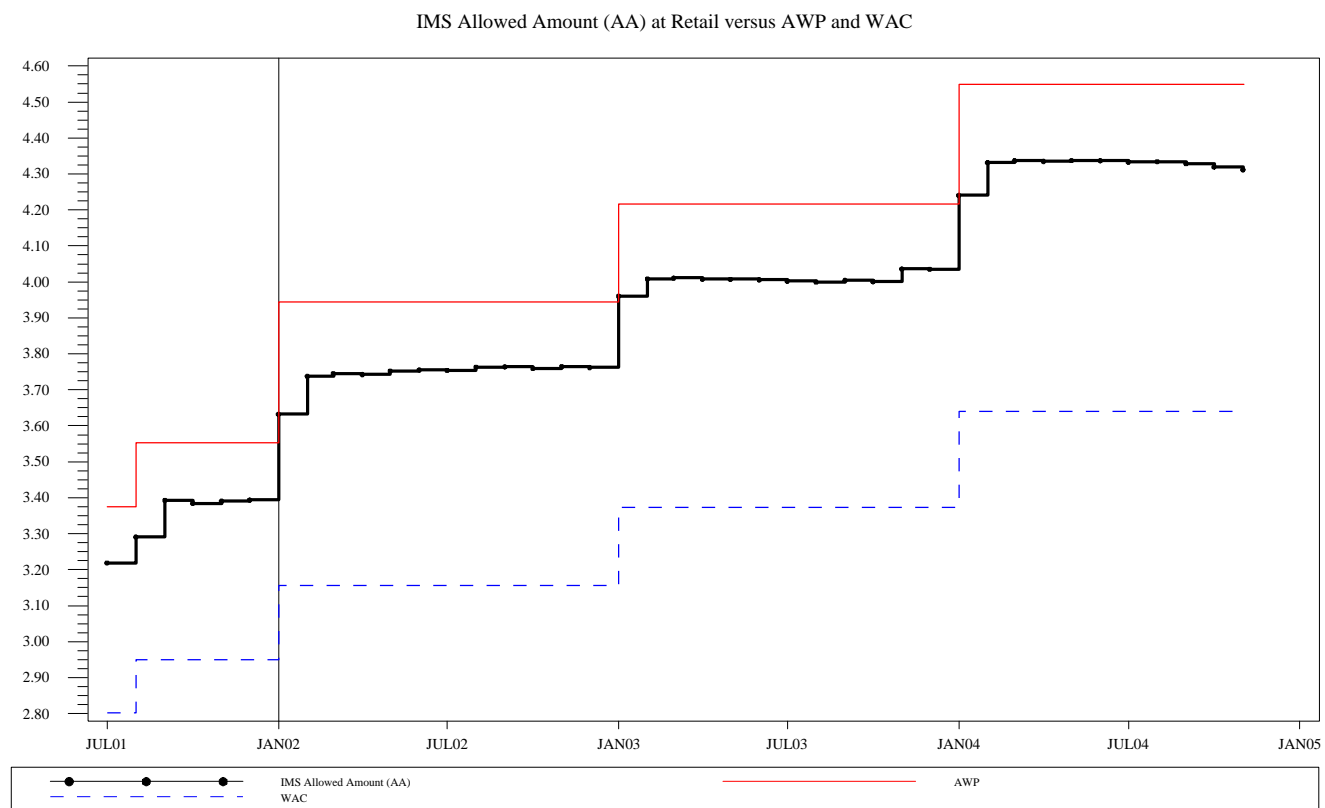


Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

Figure F.2.c

## PLAVIX 75MG

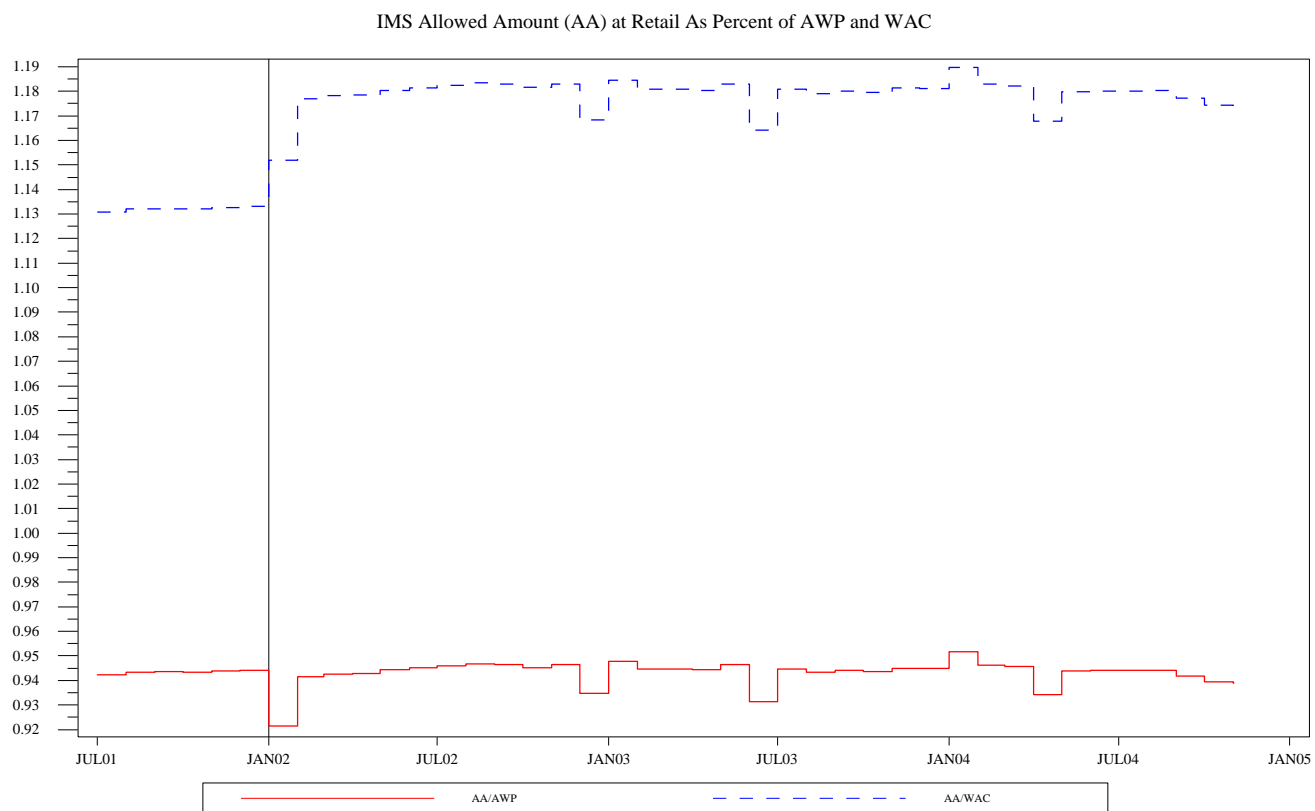
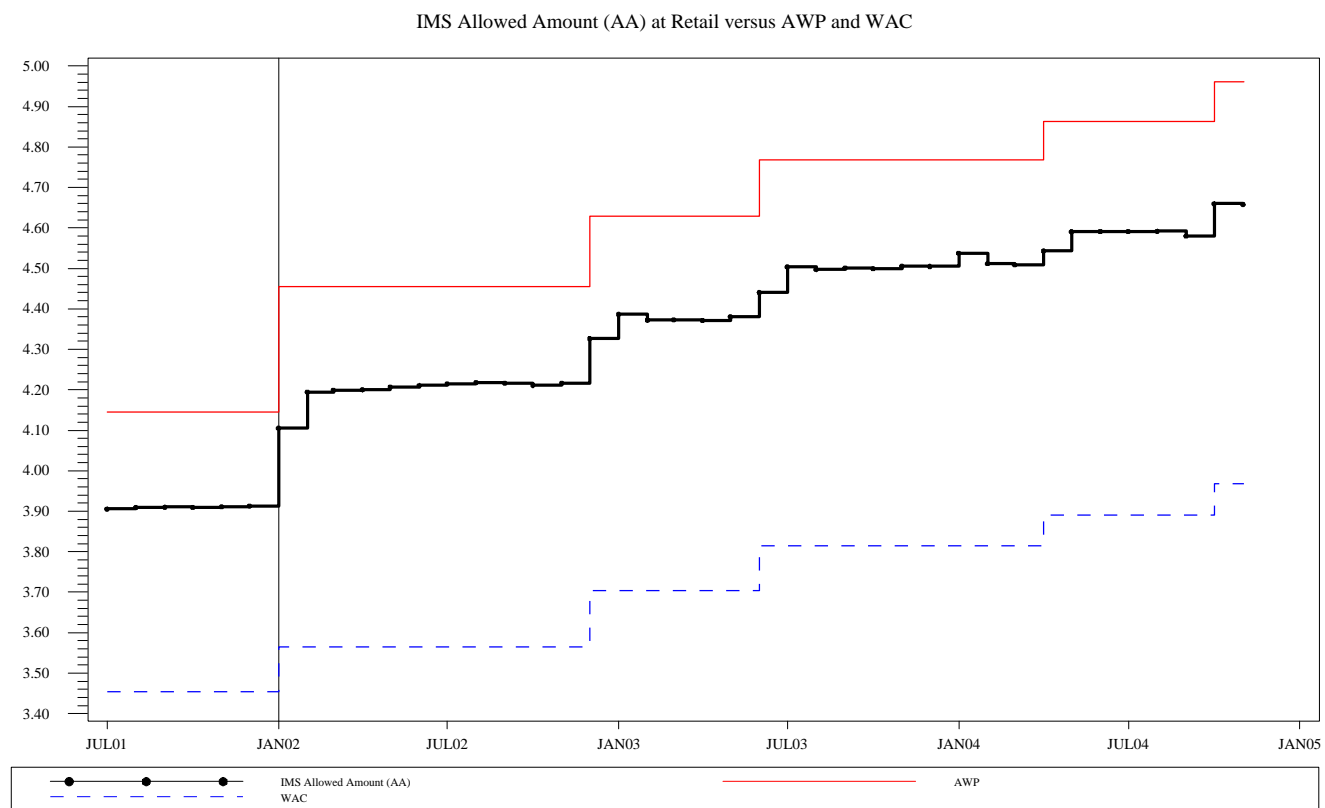


Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

Figure F.2.d

## PREVACID 30MG



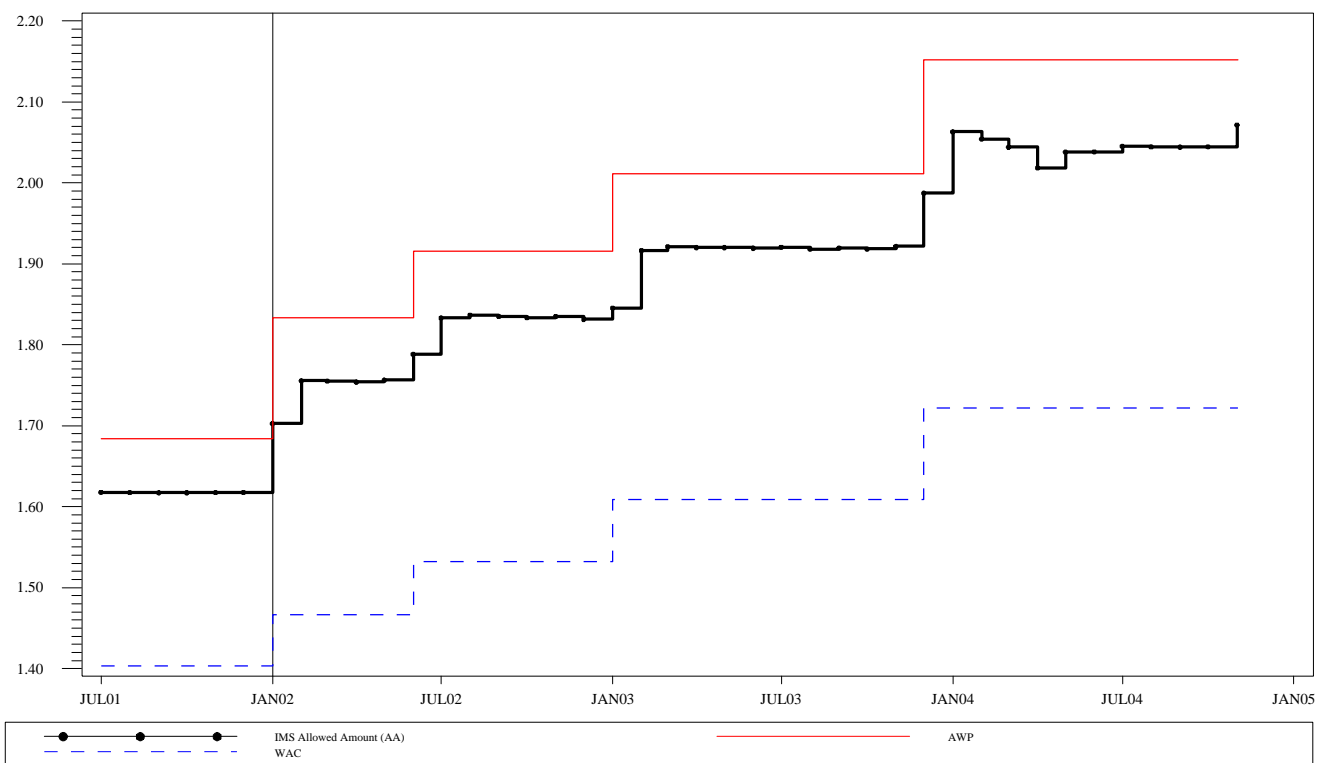
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*Subject to Protective Order*

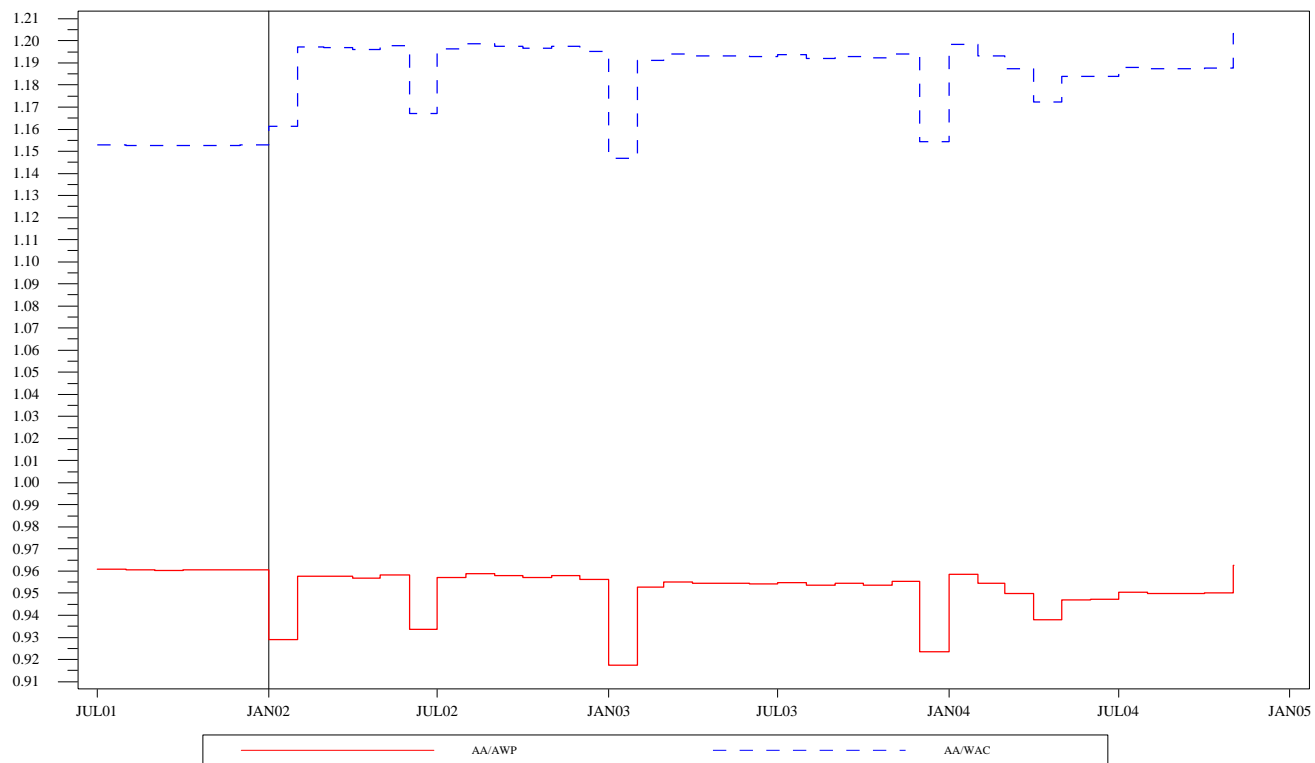
Figure F.2.e

## WELLBUTRIN SR 150MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



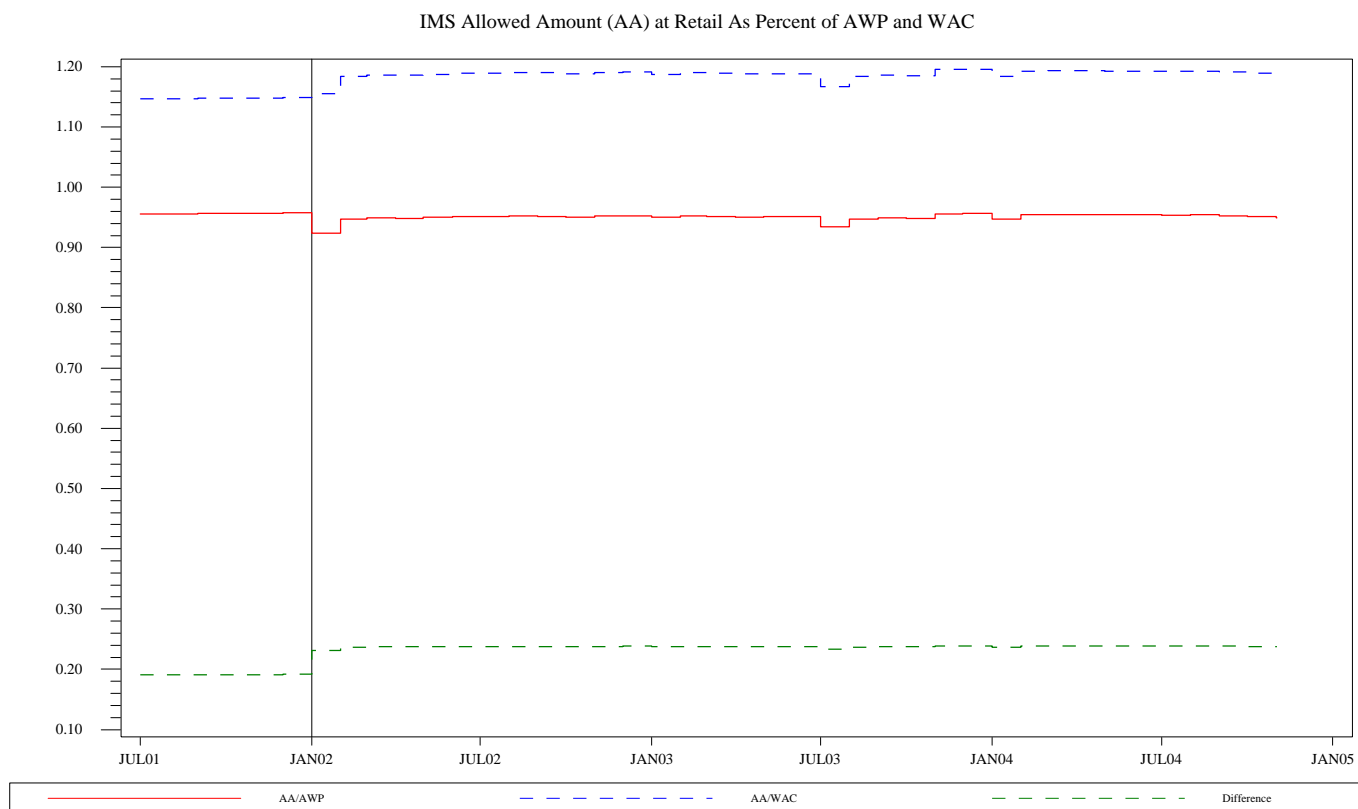
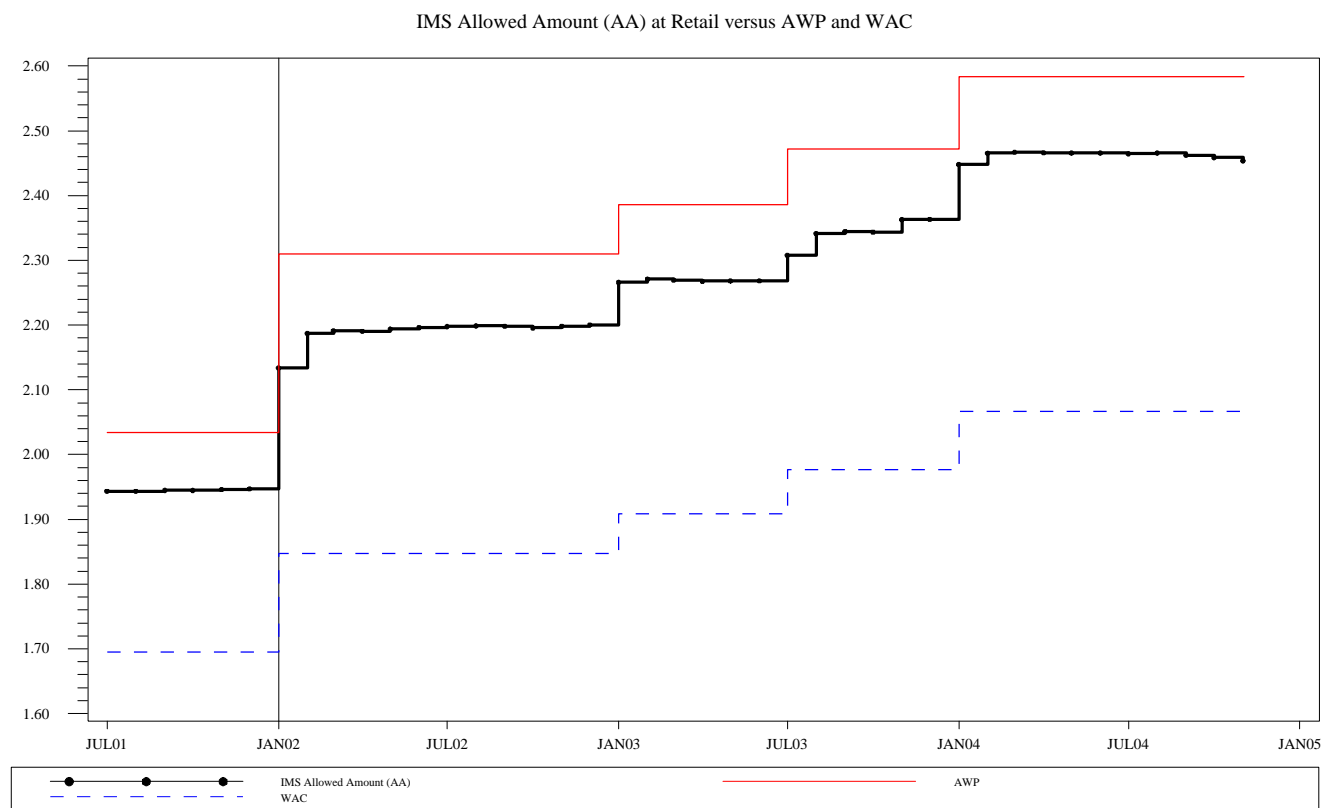
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

**ATTACHMENT F: FIGURE F.2'**

Figure F.2.a'

## LIPITOR 10MG

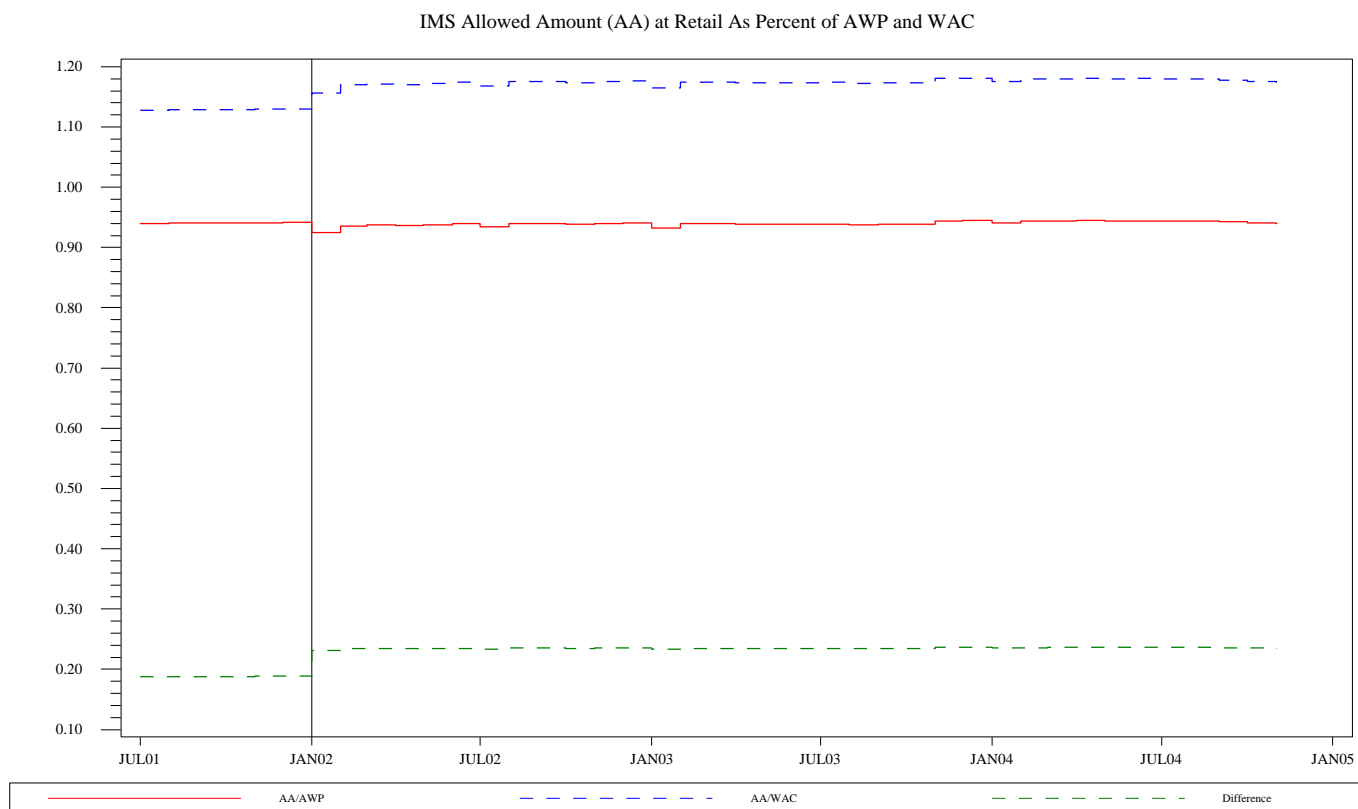
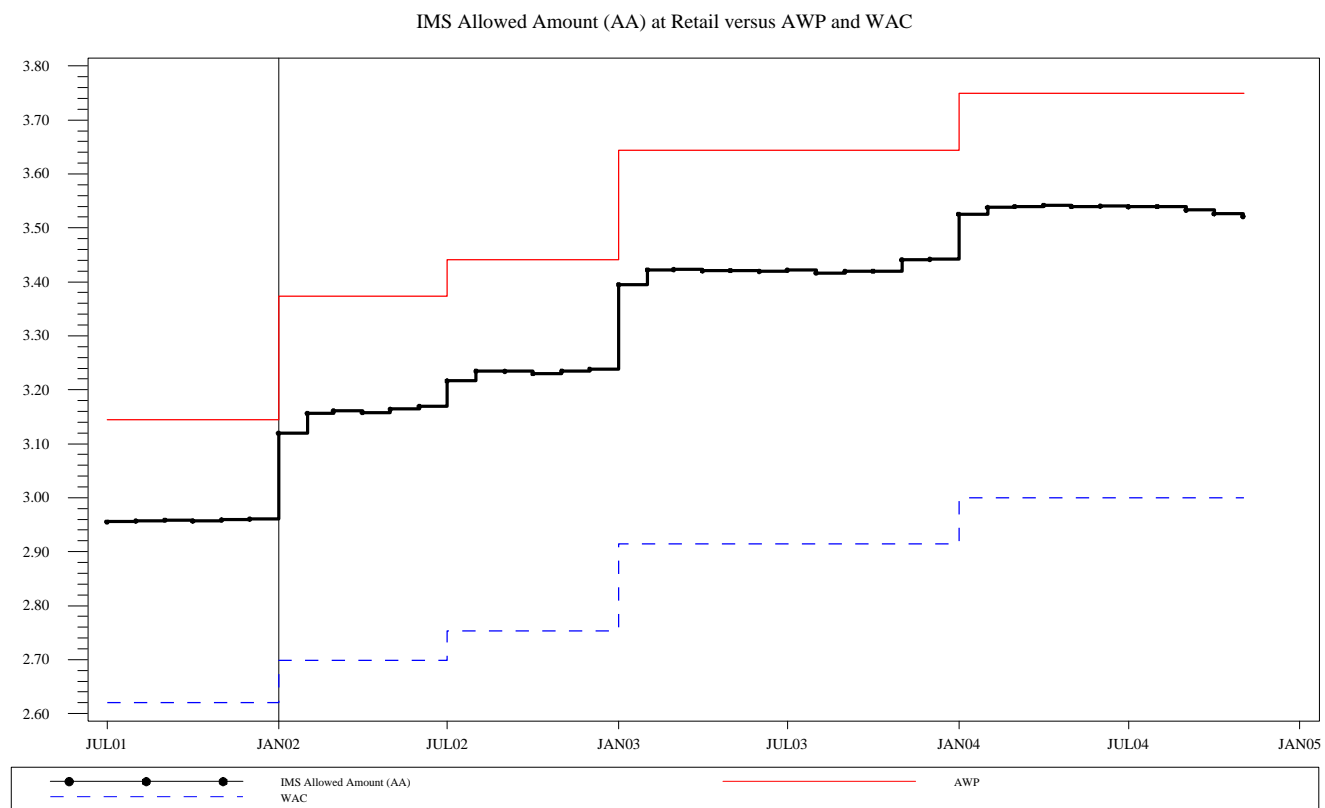


Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

Figure F.2.b'

## LIPITOR 20MG



Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

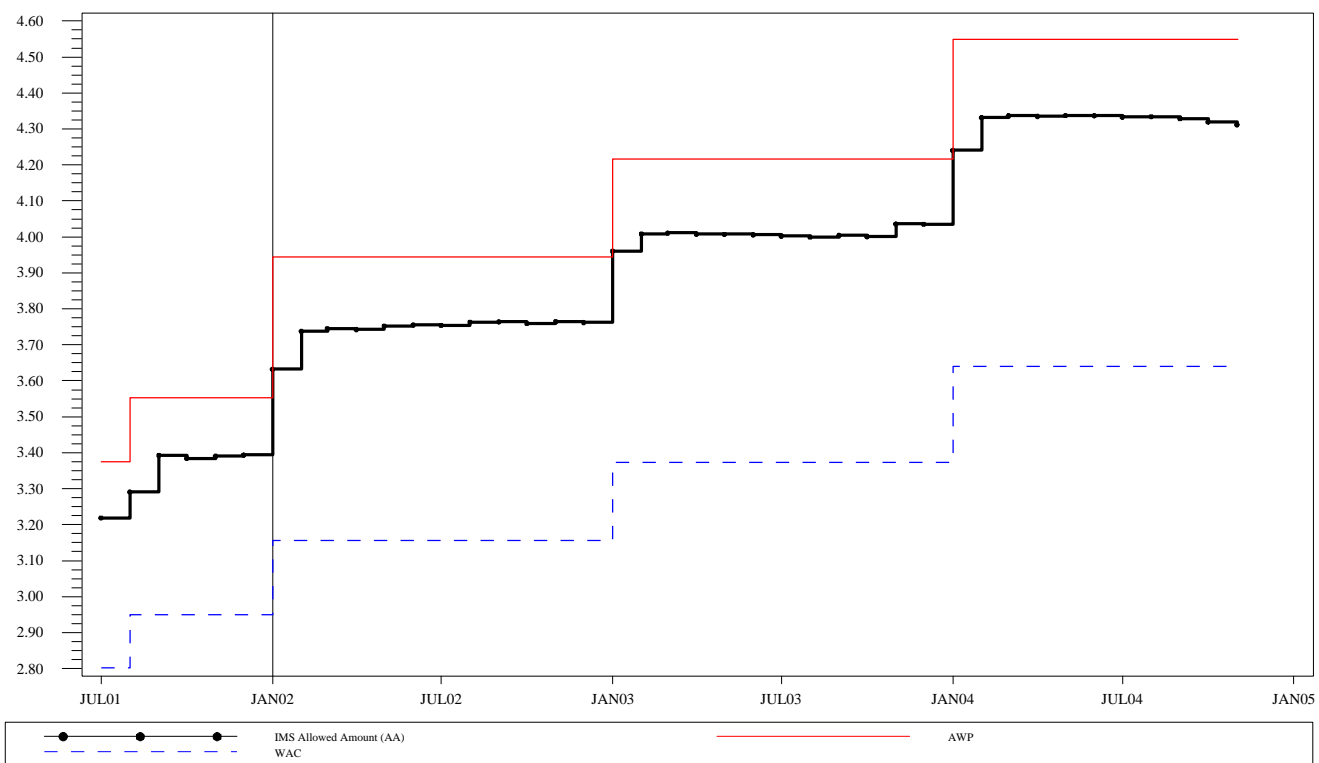
*Subject to Protective Order*



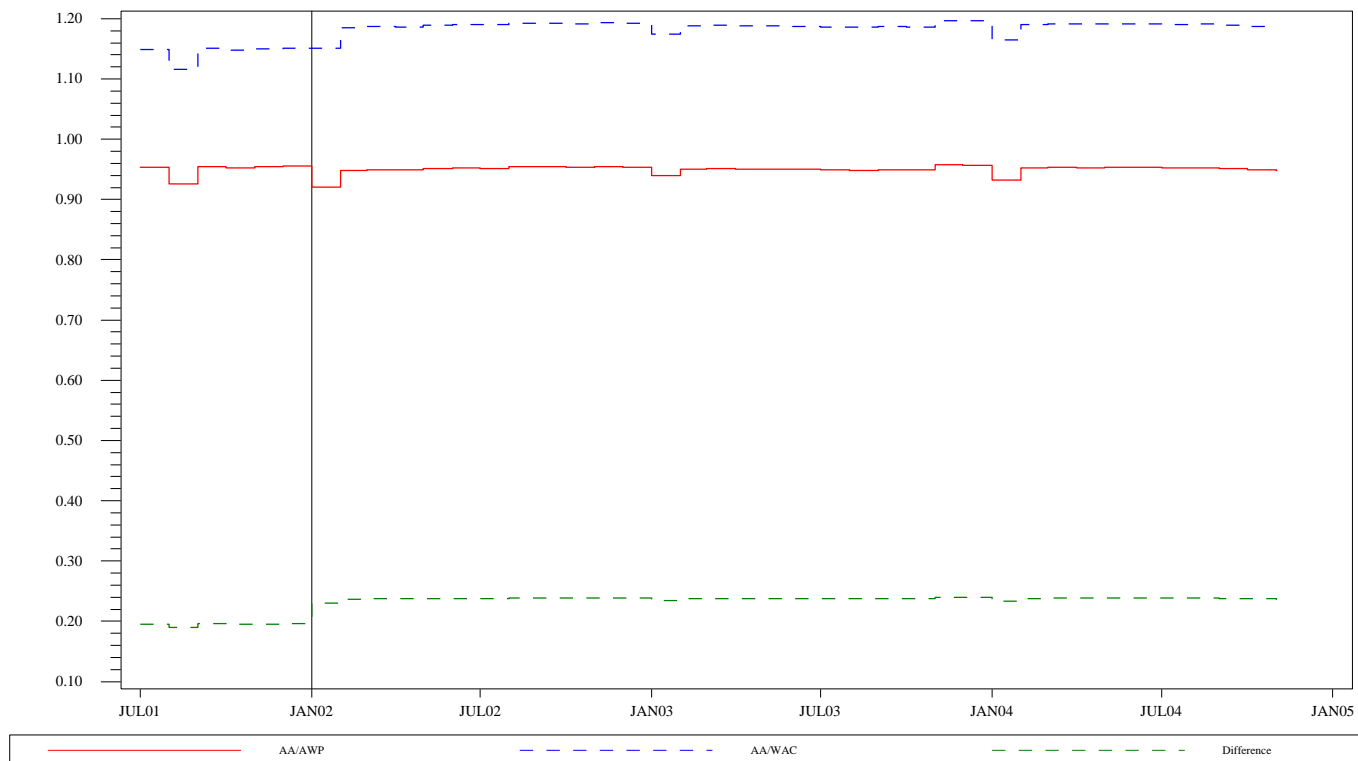
Figure F.2.c'

## PLAVIX 75MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



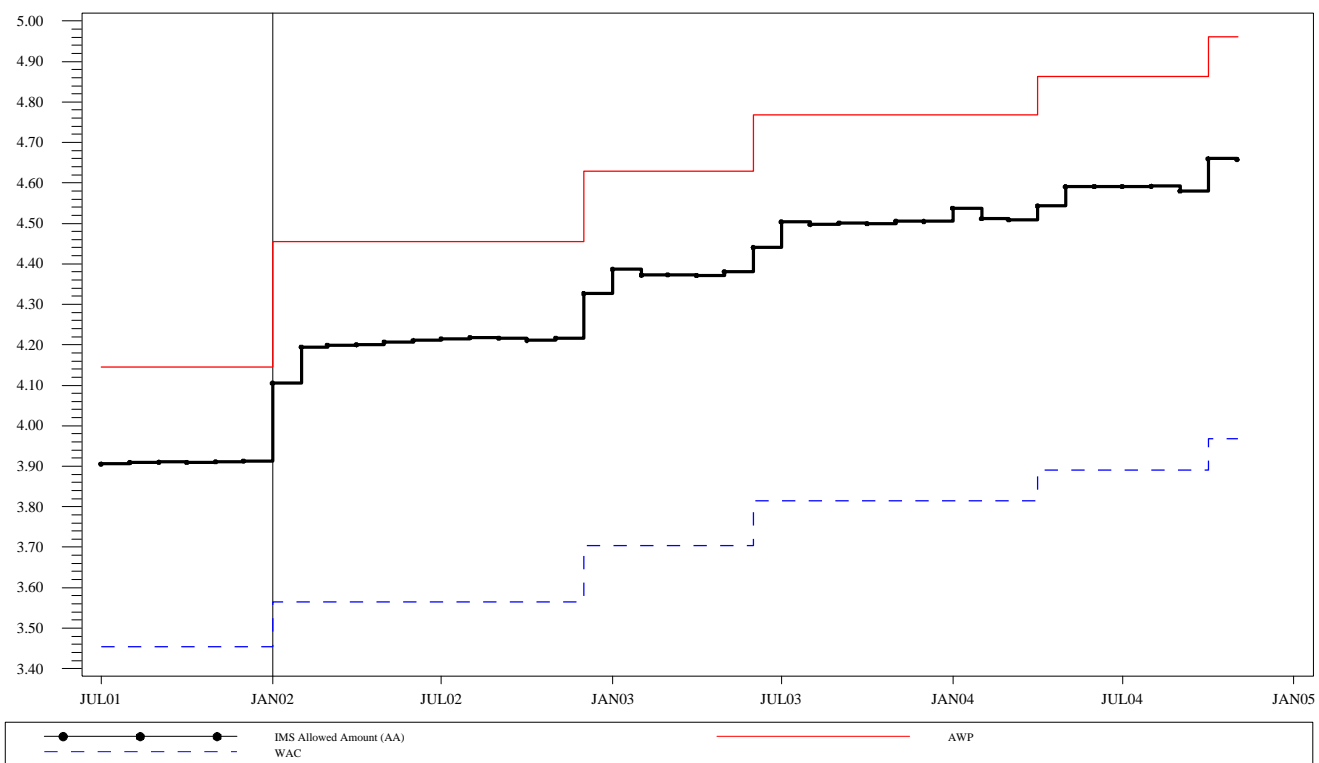
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

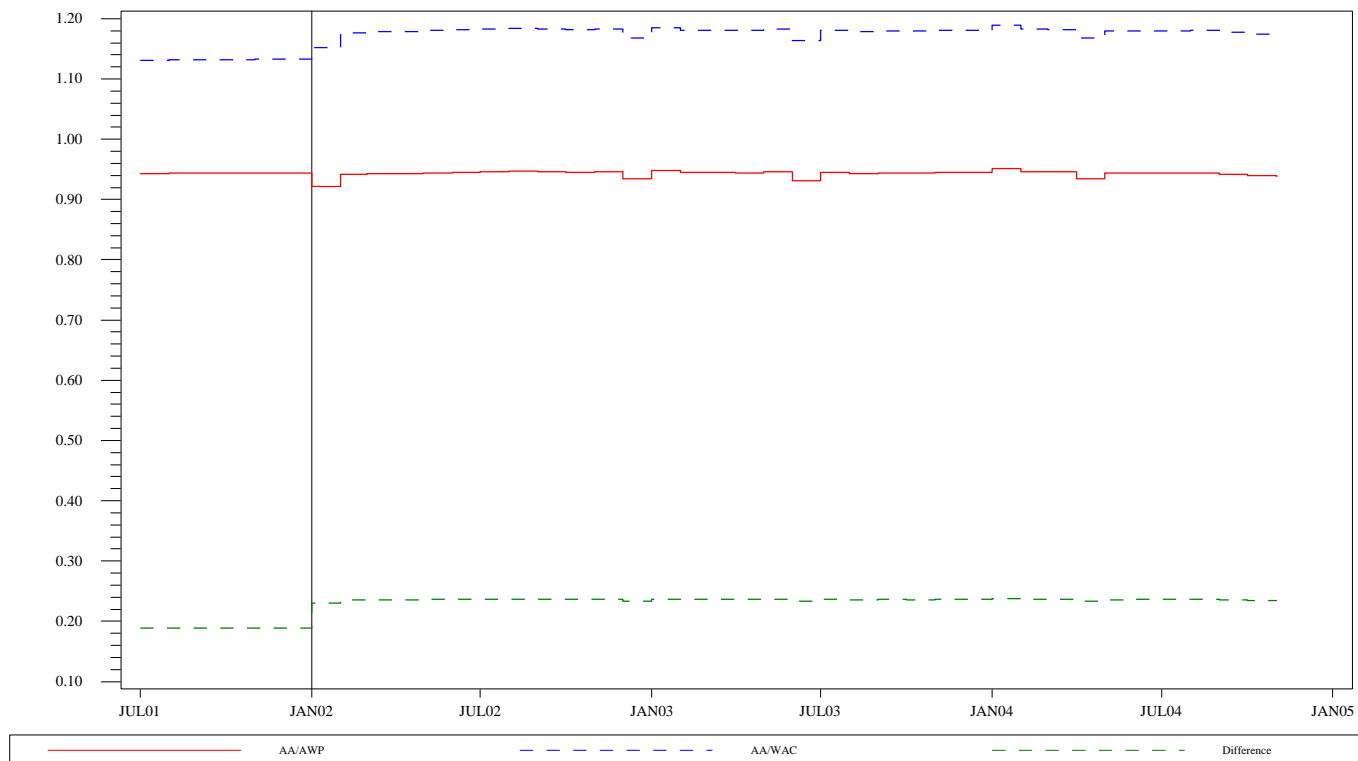
Figure F.2.d'

## PREVACID 30MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



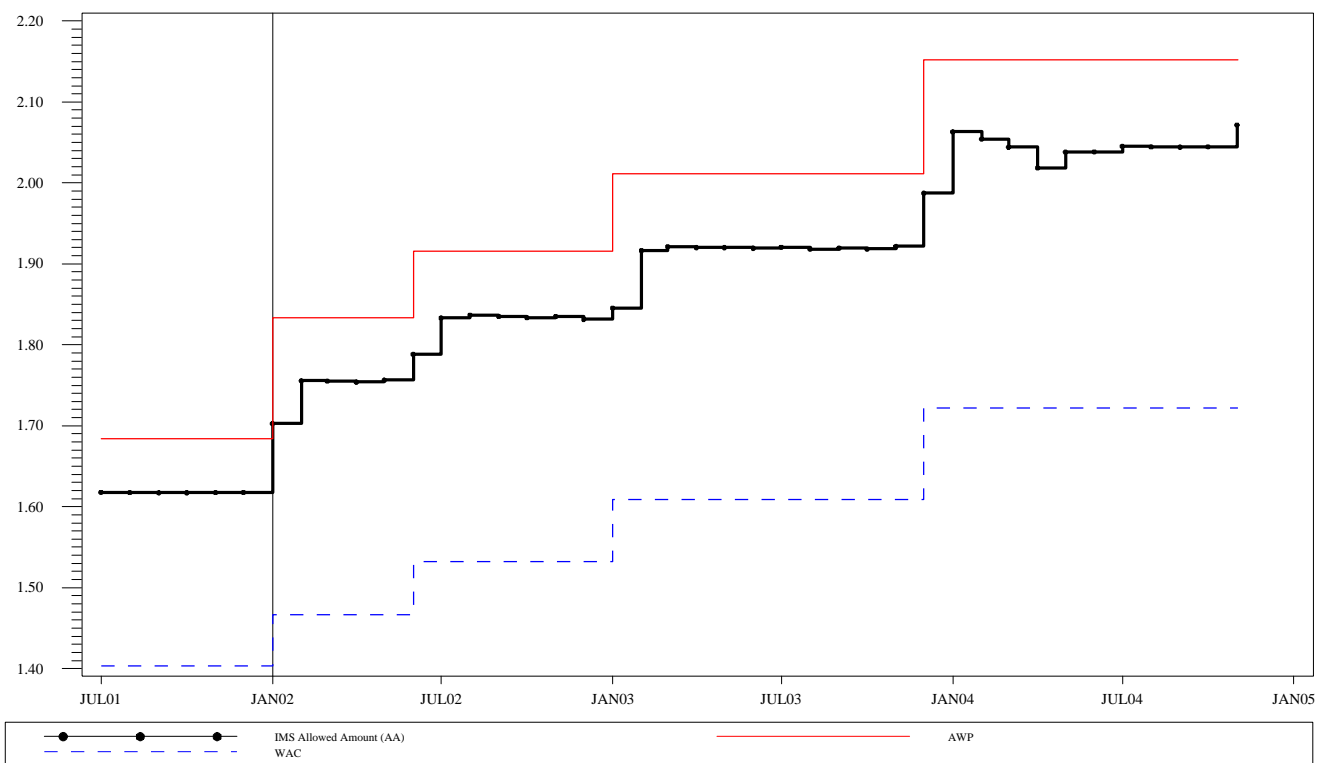
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*Subject to Protective Order*

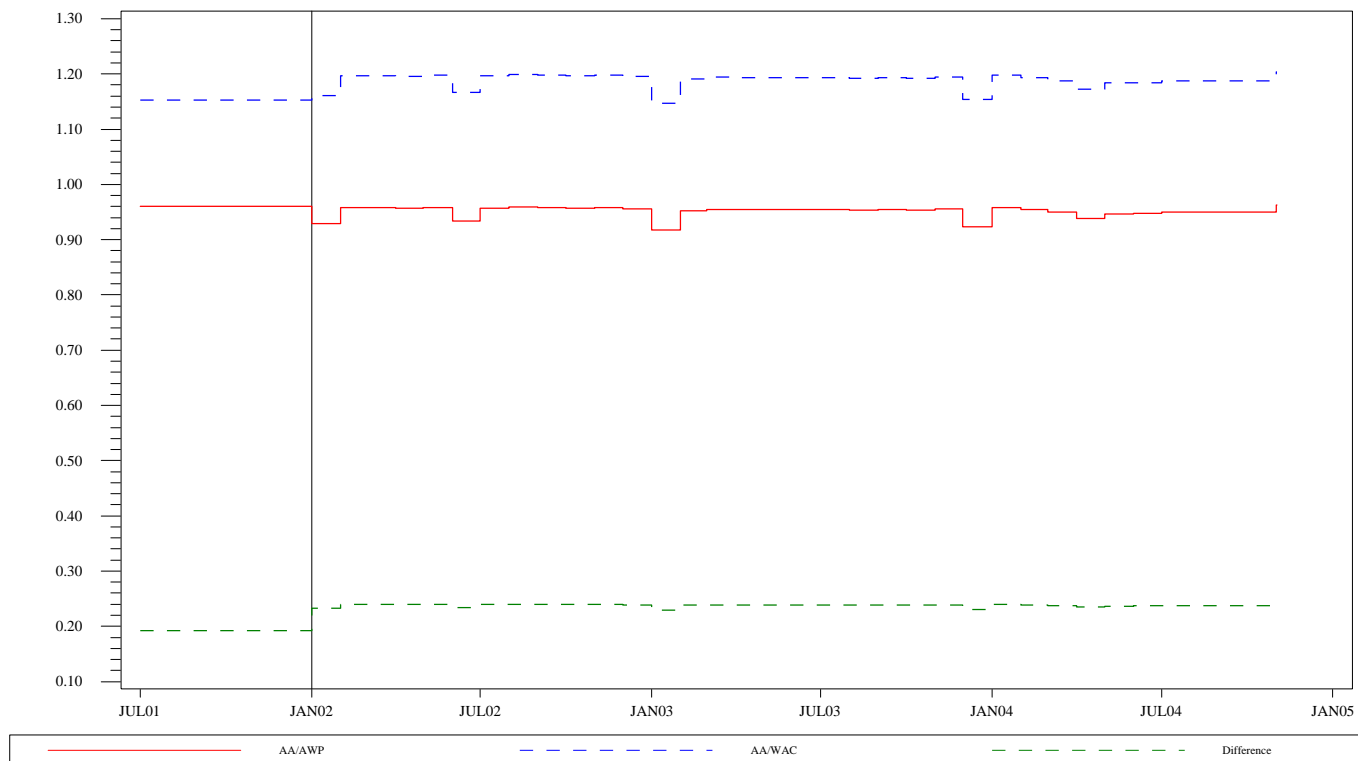
Figure F.2.e'

## WELLBUTRIN SR 150MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC

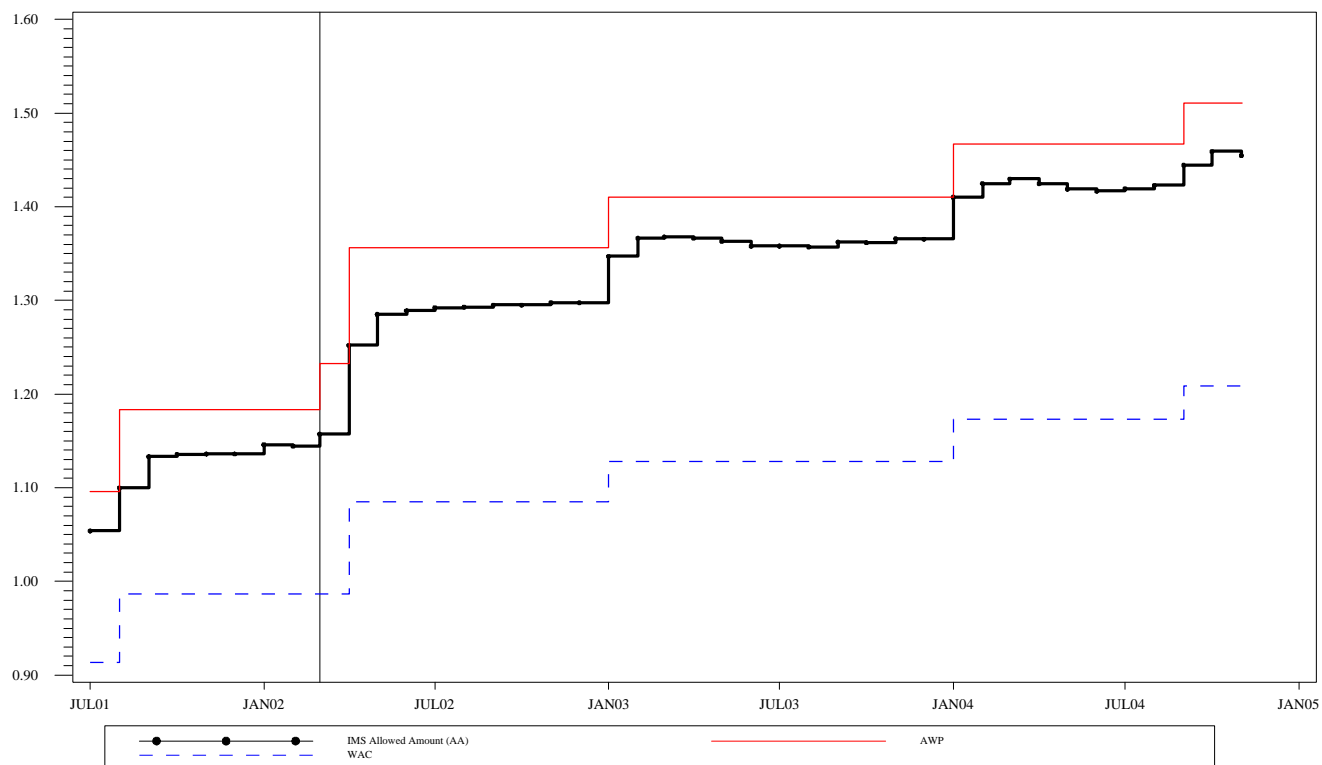


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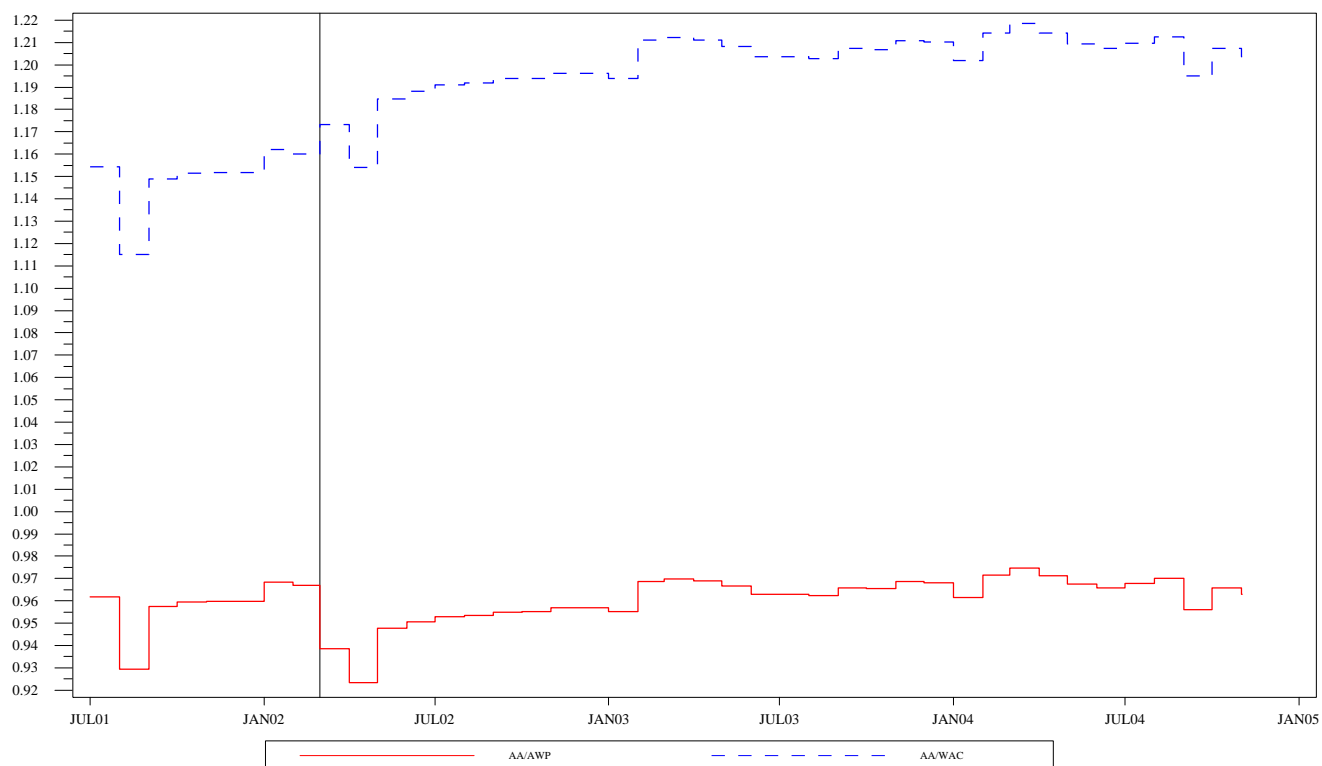
*Subject to Protective Order*

**ATTACHMENT F: FIGURE F.3**

IMS Allowed Amount (AA) at Retail versus AWP and WAC



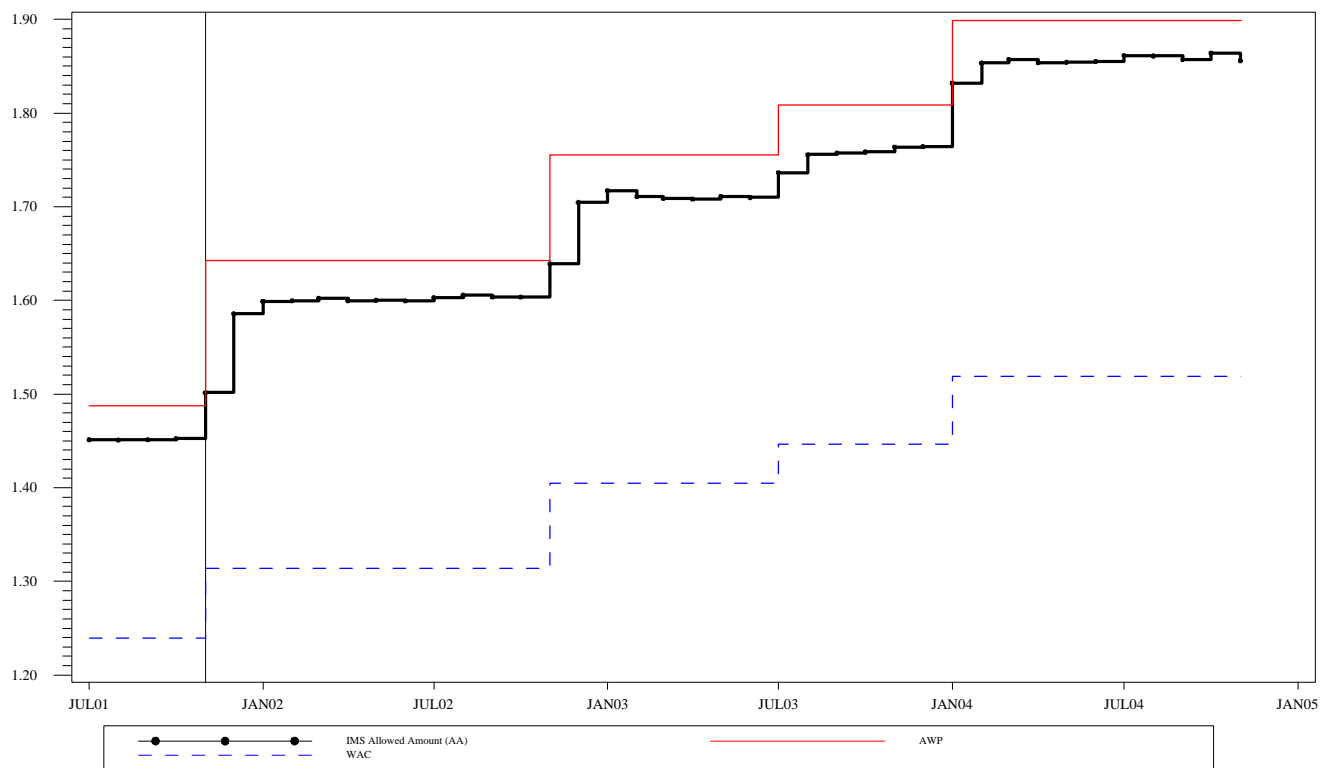
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



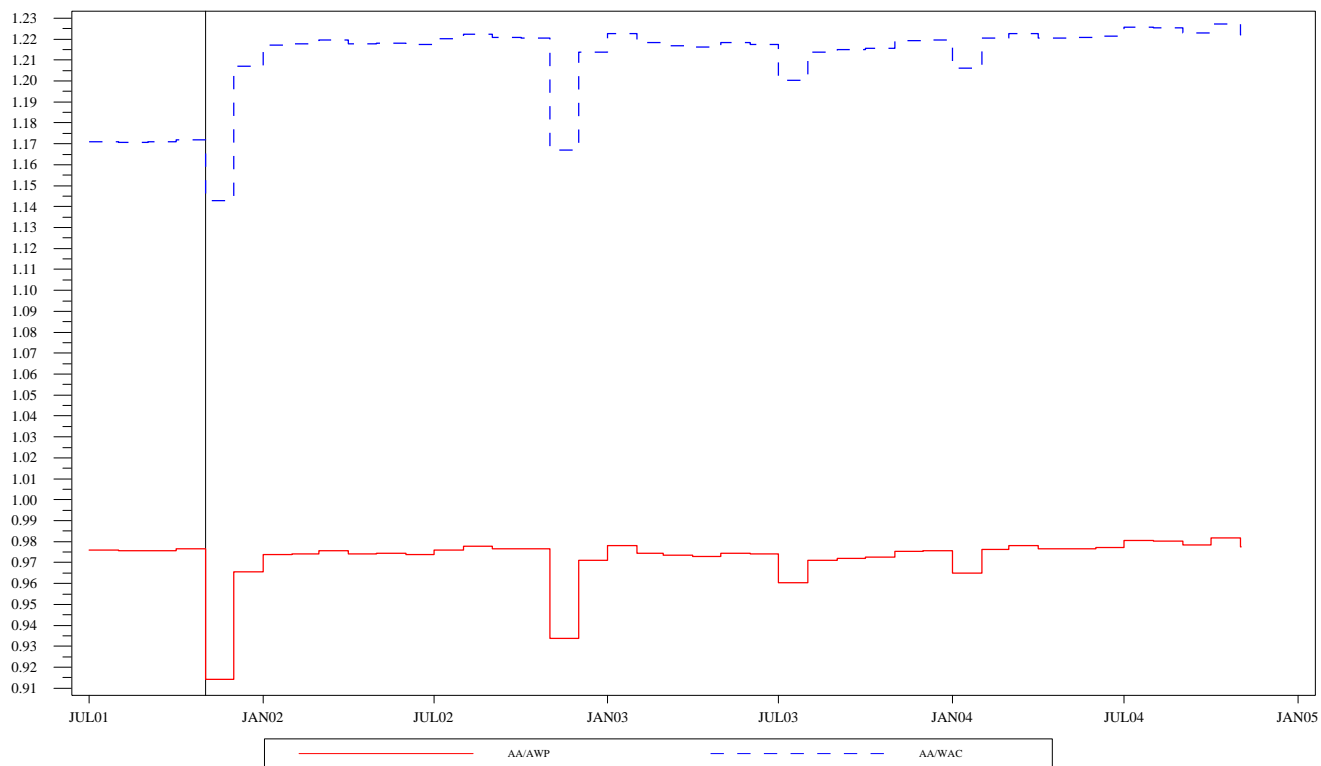
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



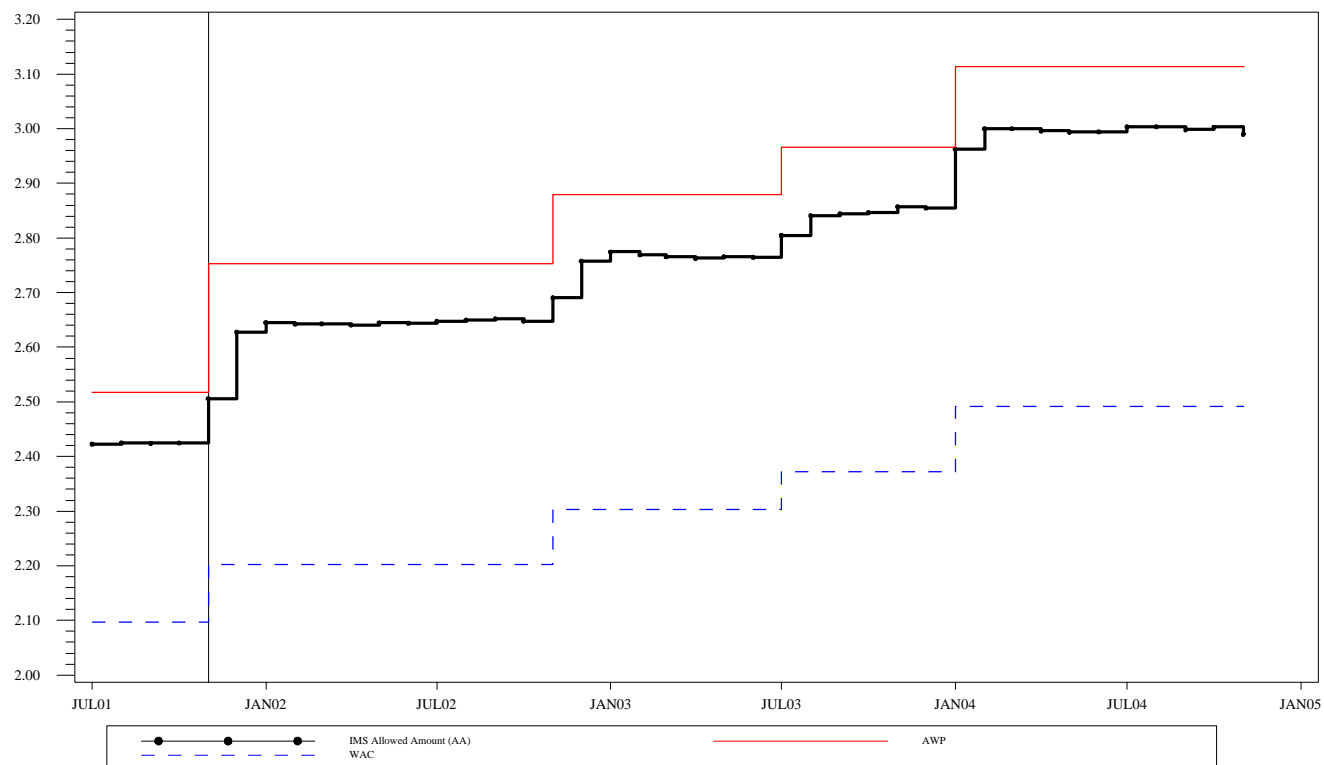
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



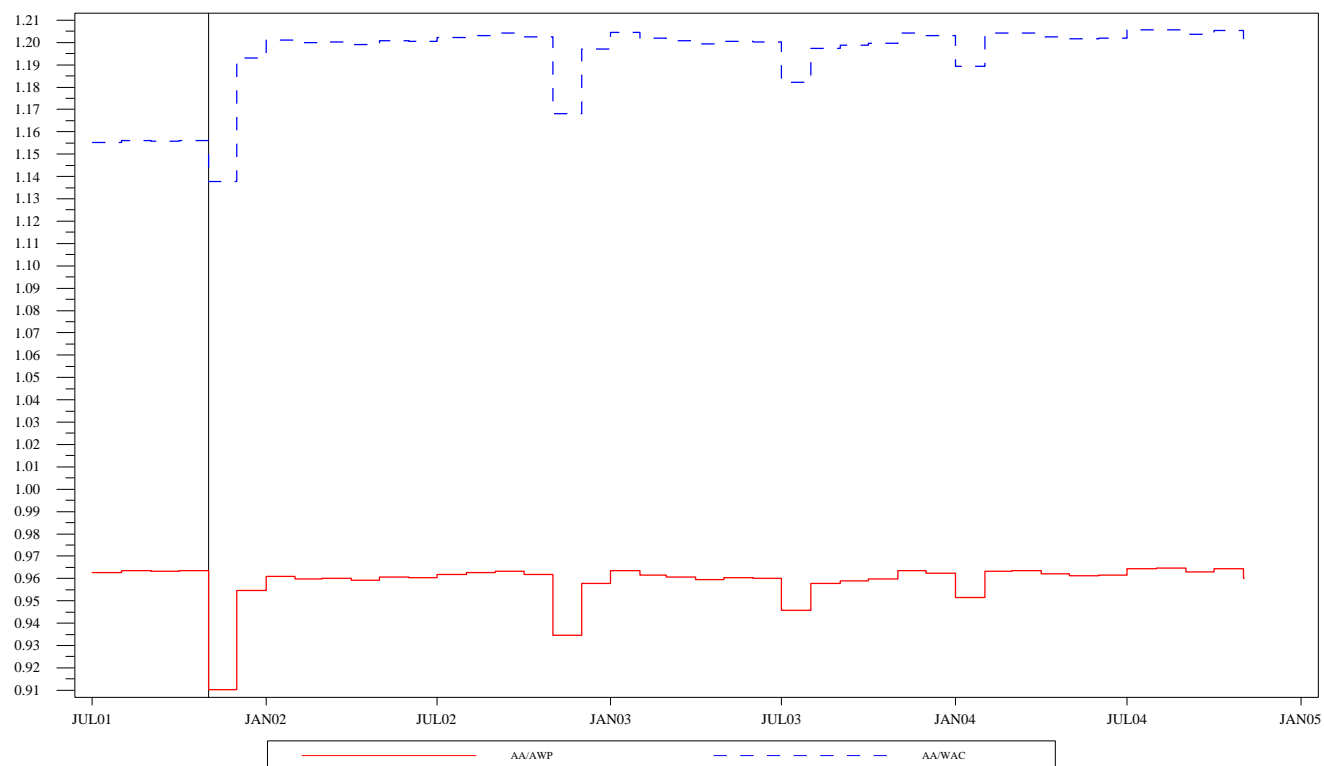
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC

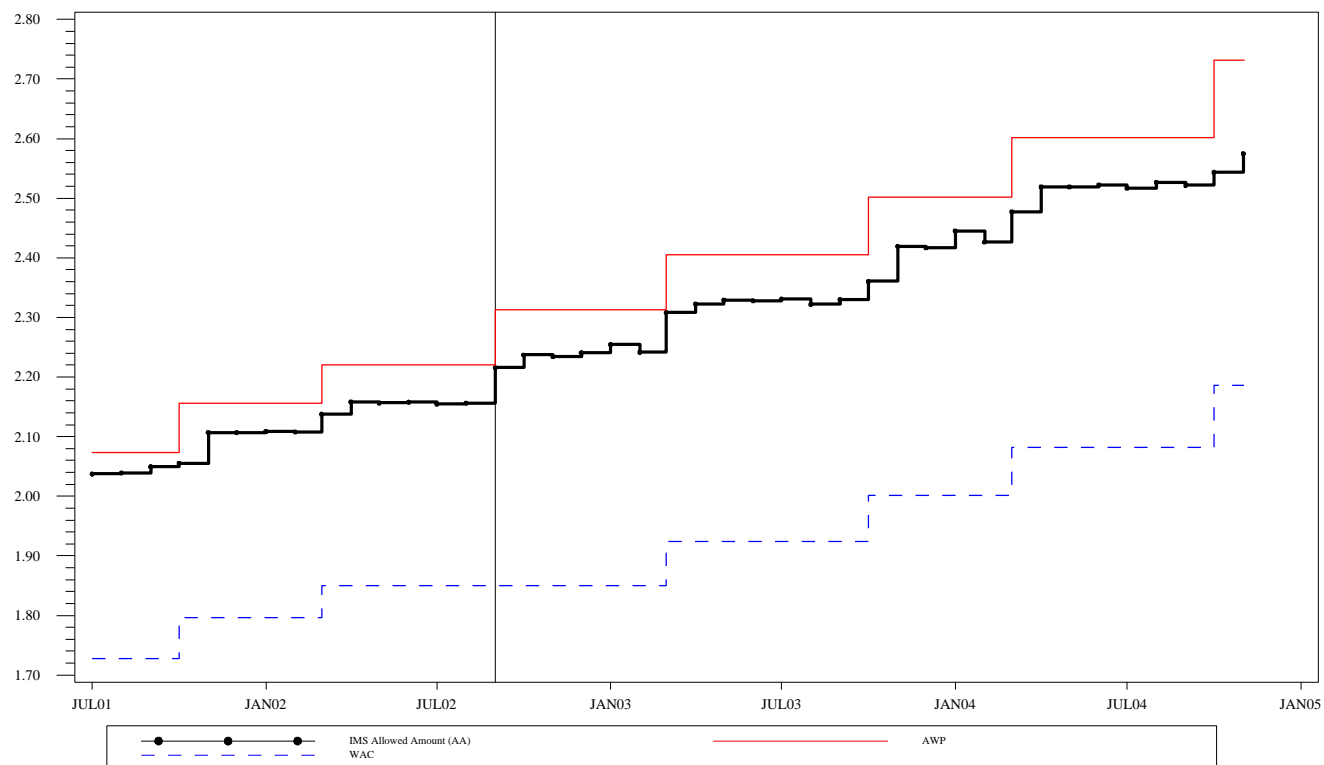


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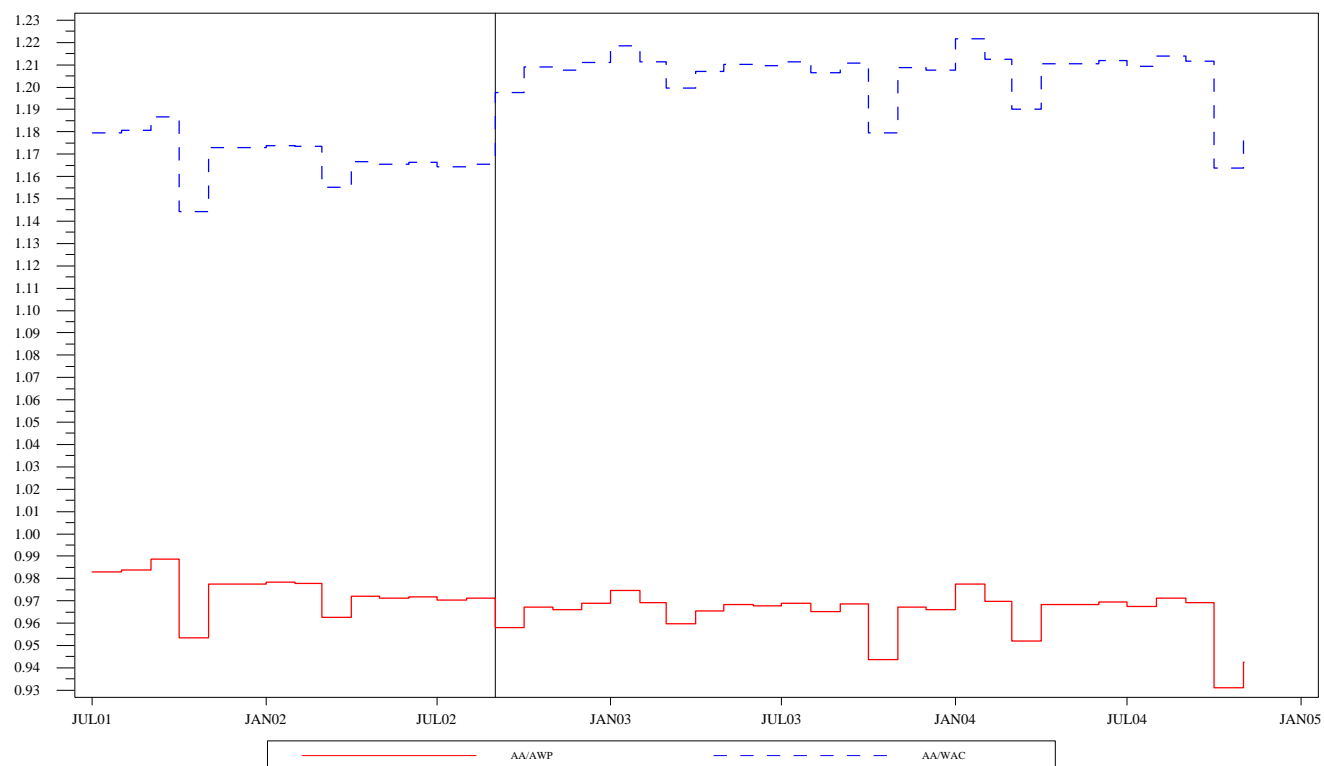
*Subject to Protective Order*



IMS Allowed Amount (AA) at Retail versus AWP and WAC



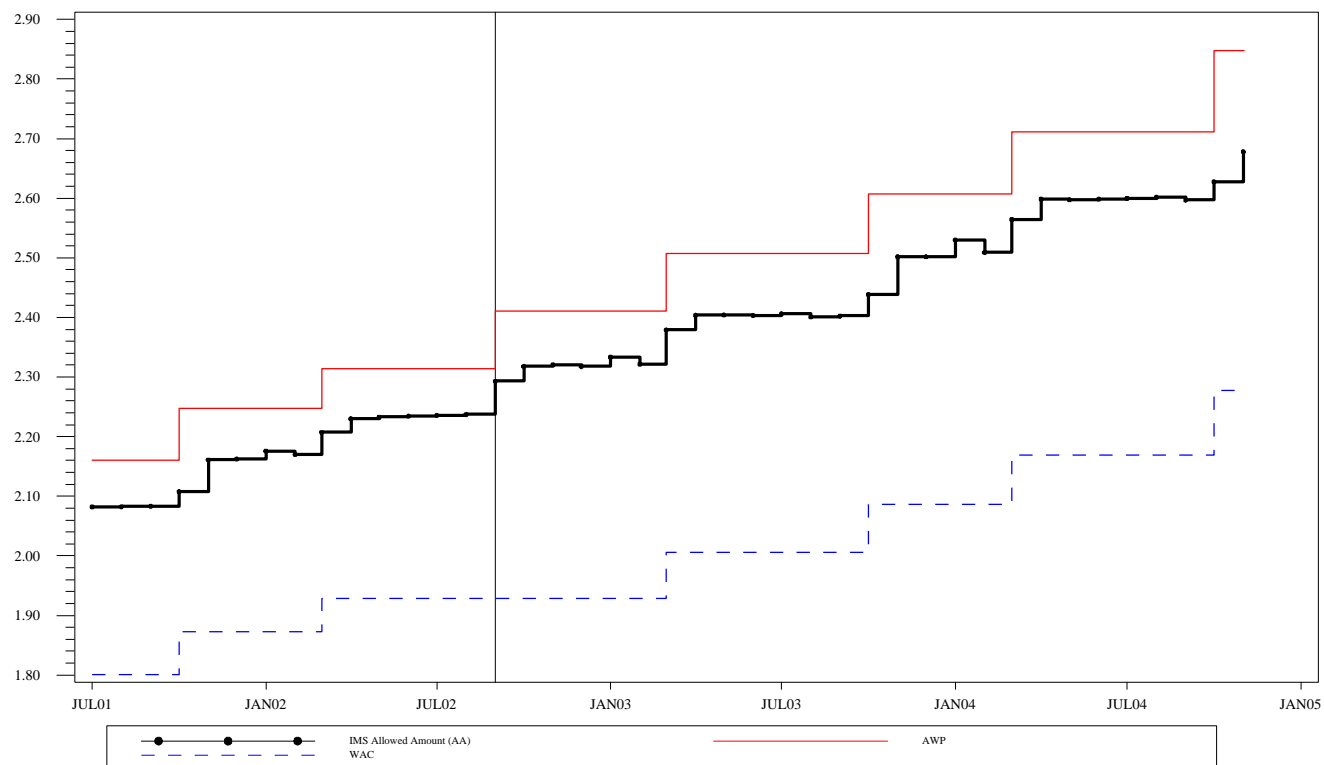
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



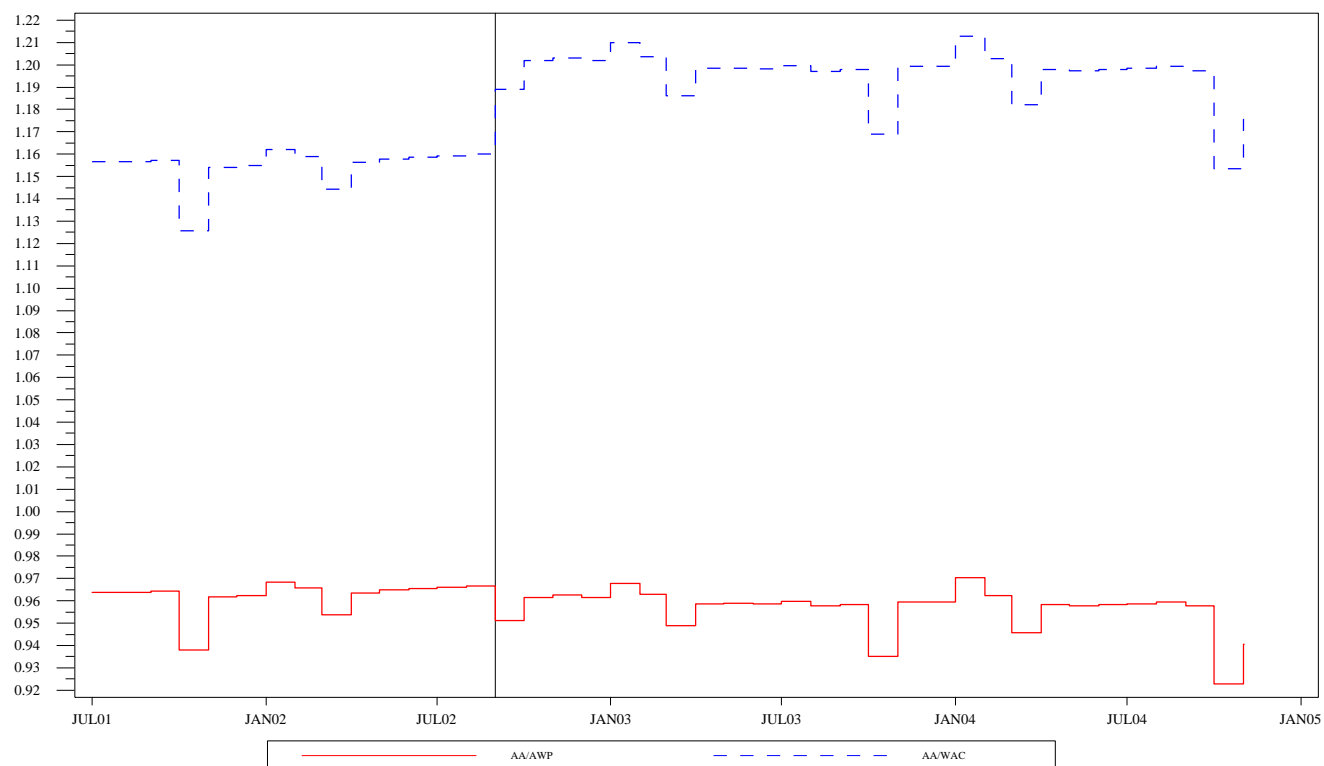
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



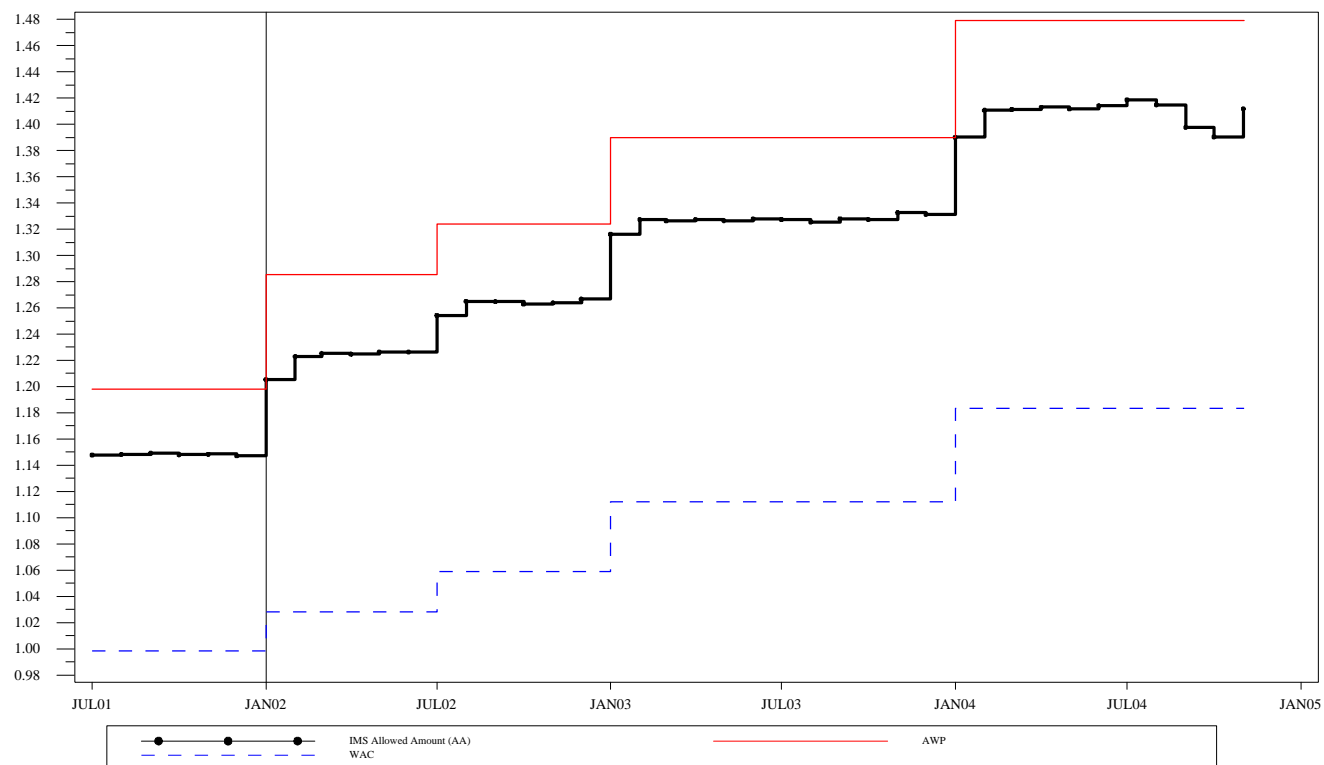
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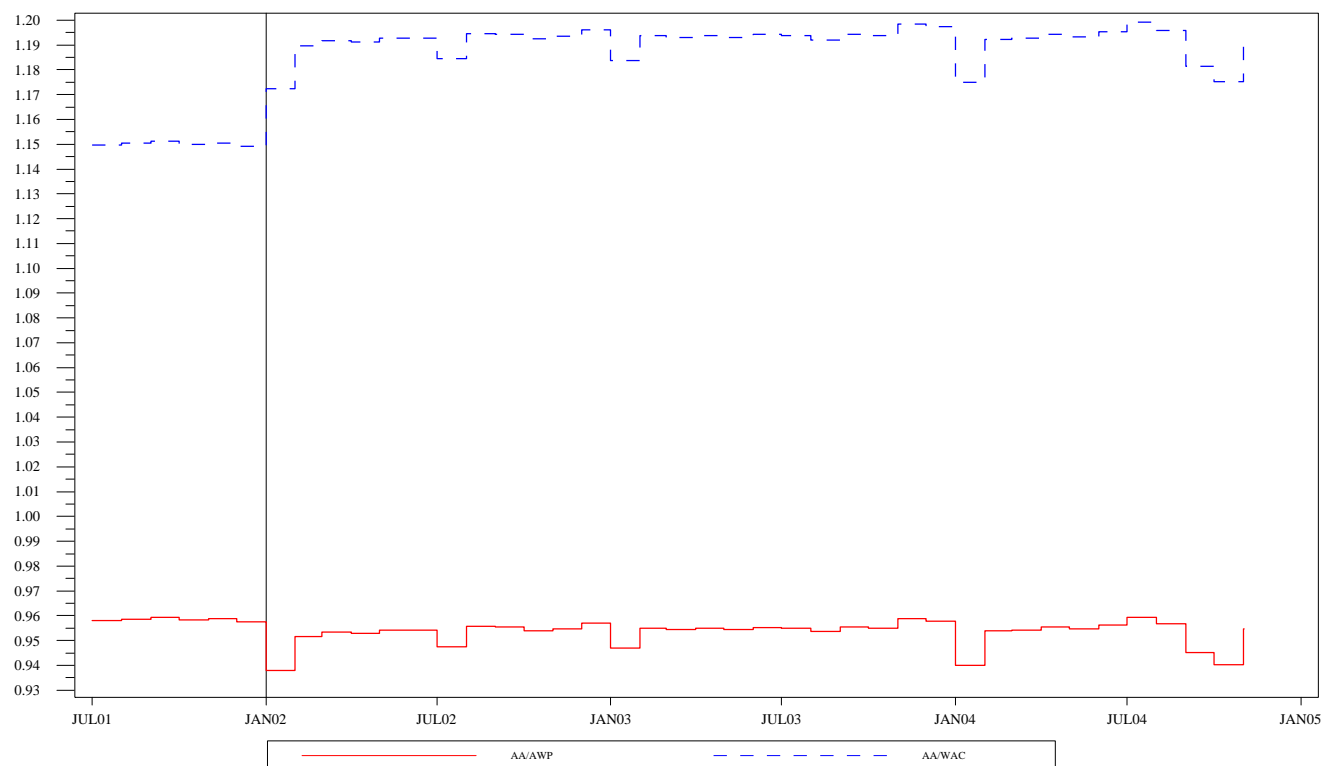
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



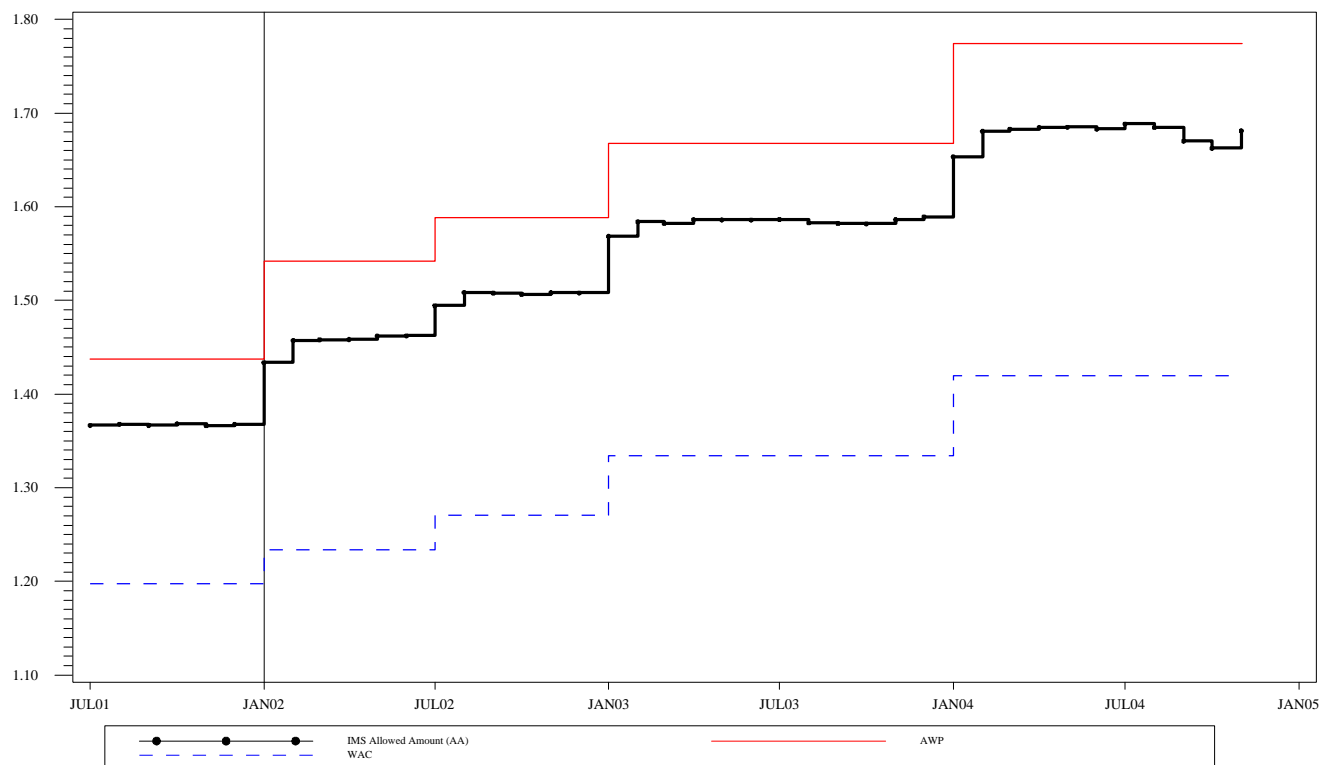
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



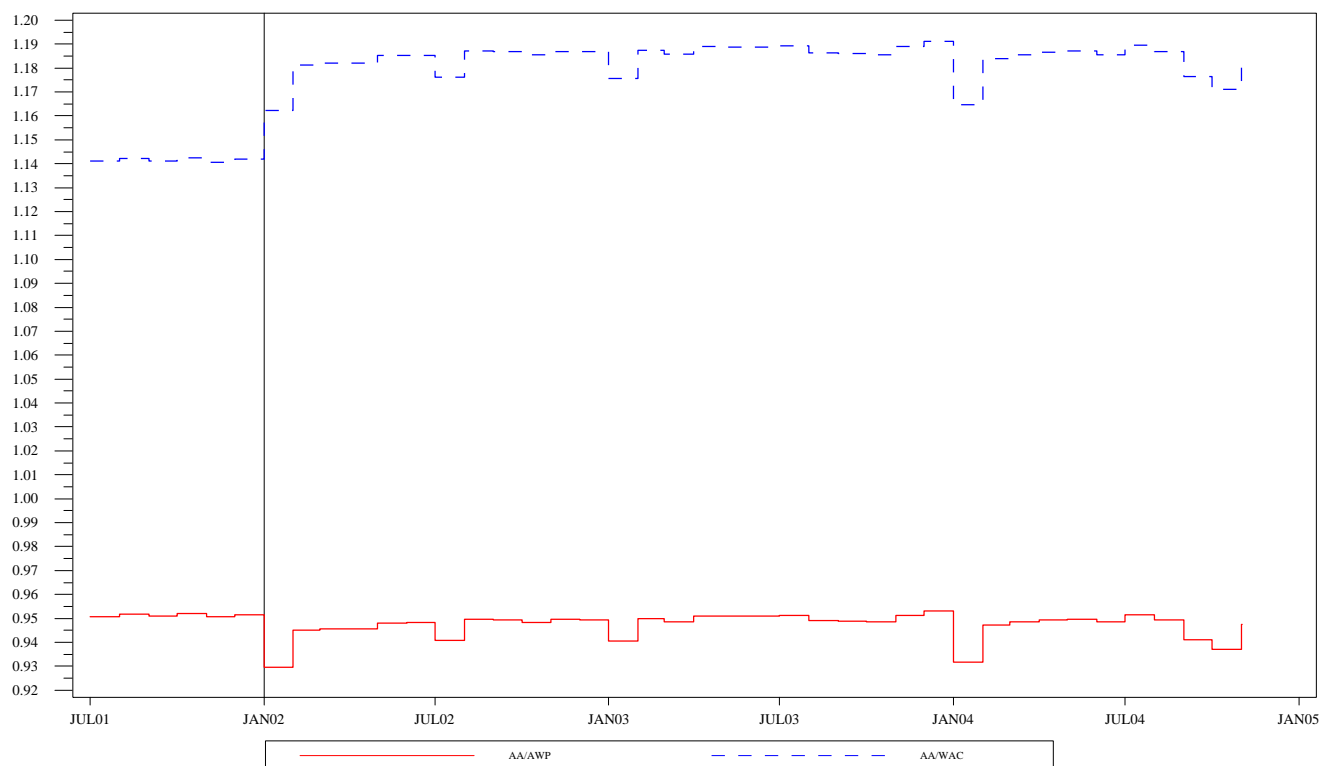
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*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



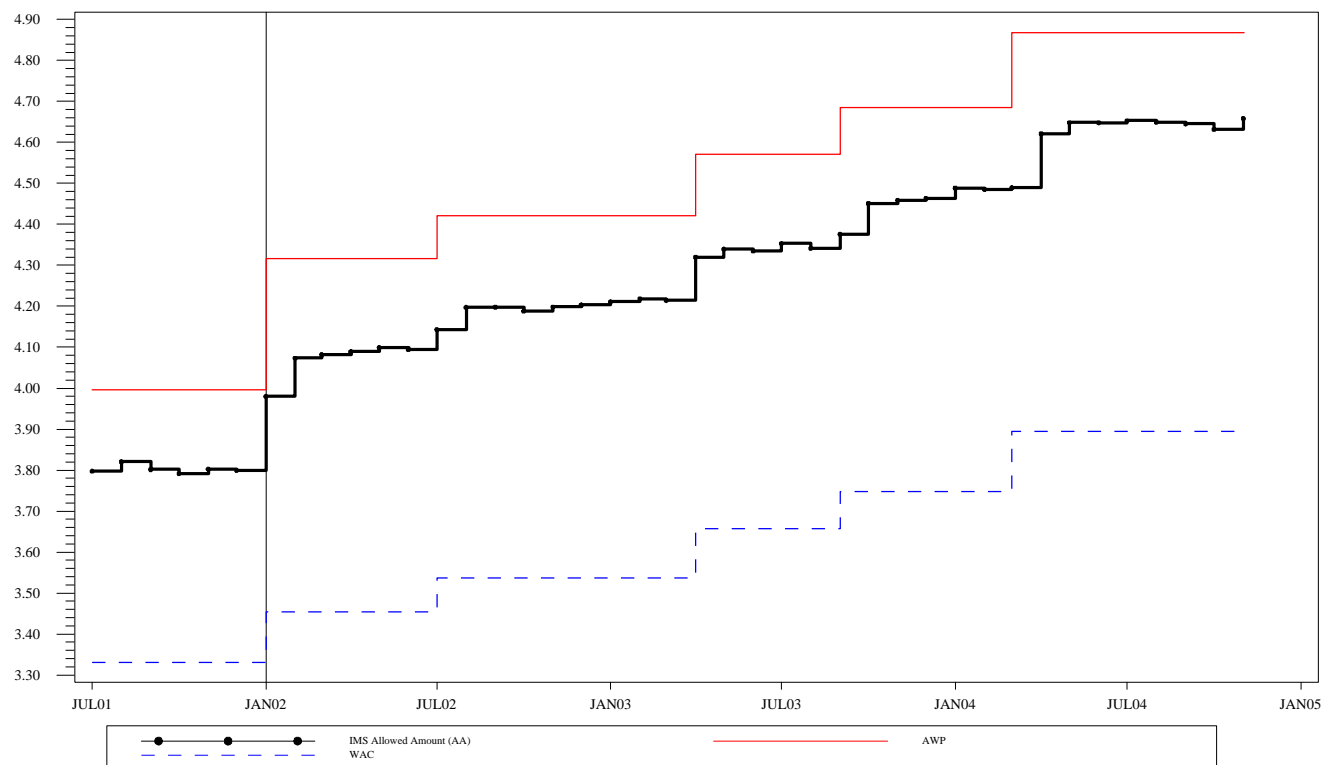
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



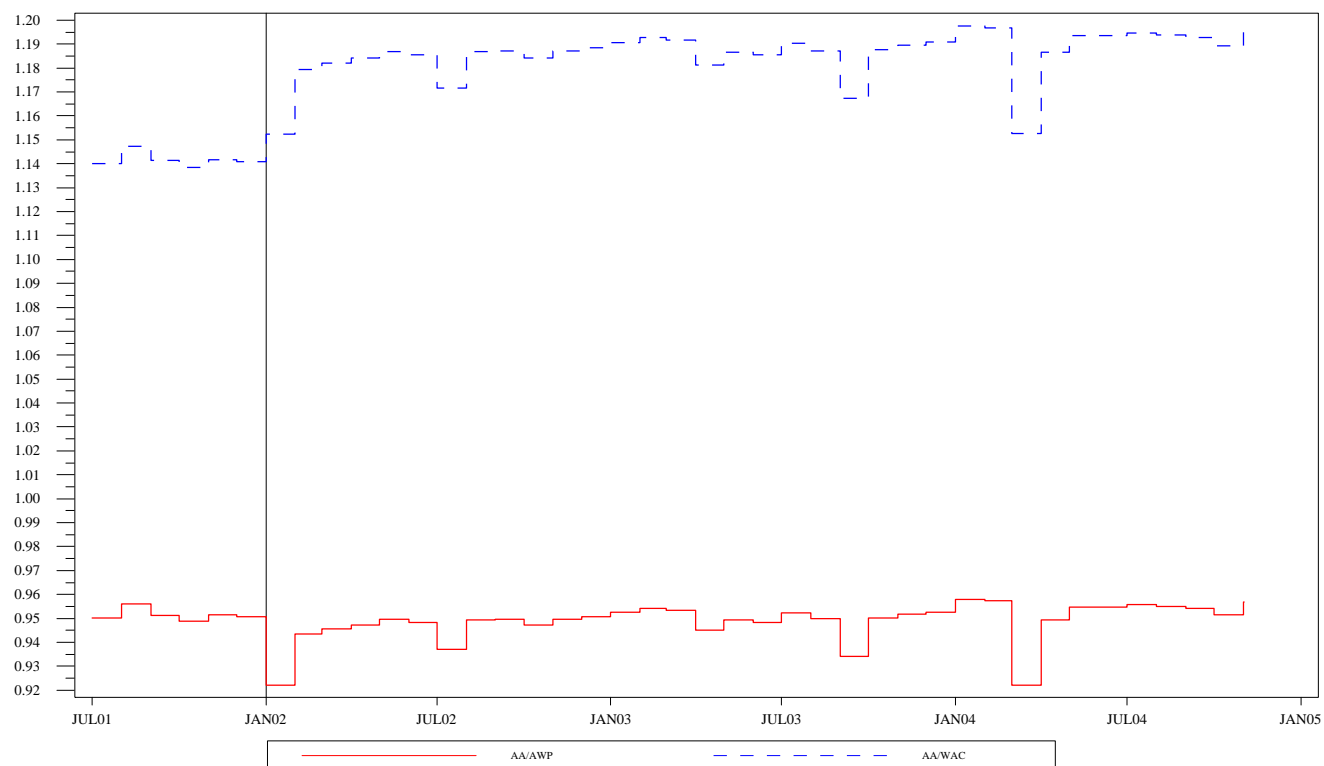
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



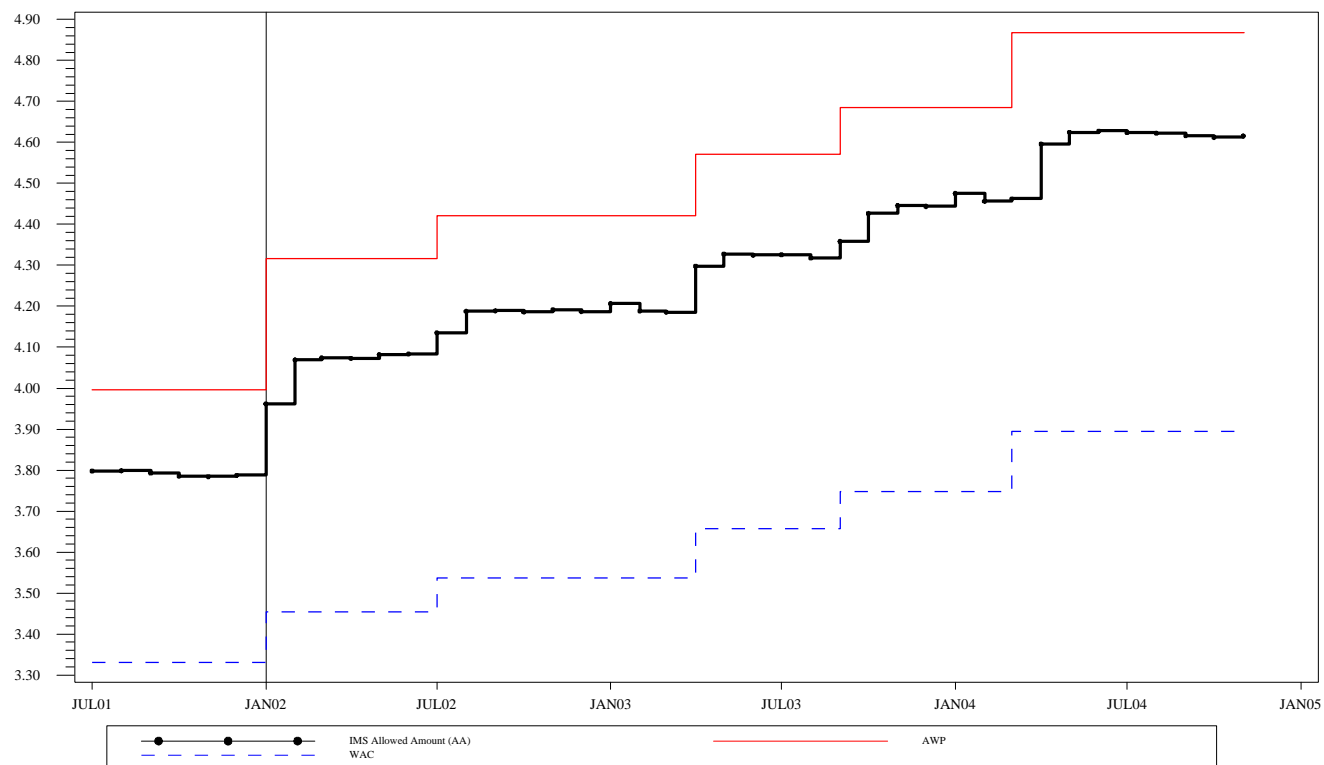
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



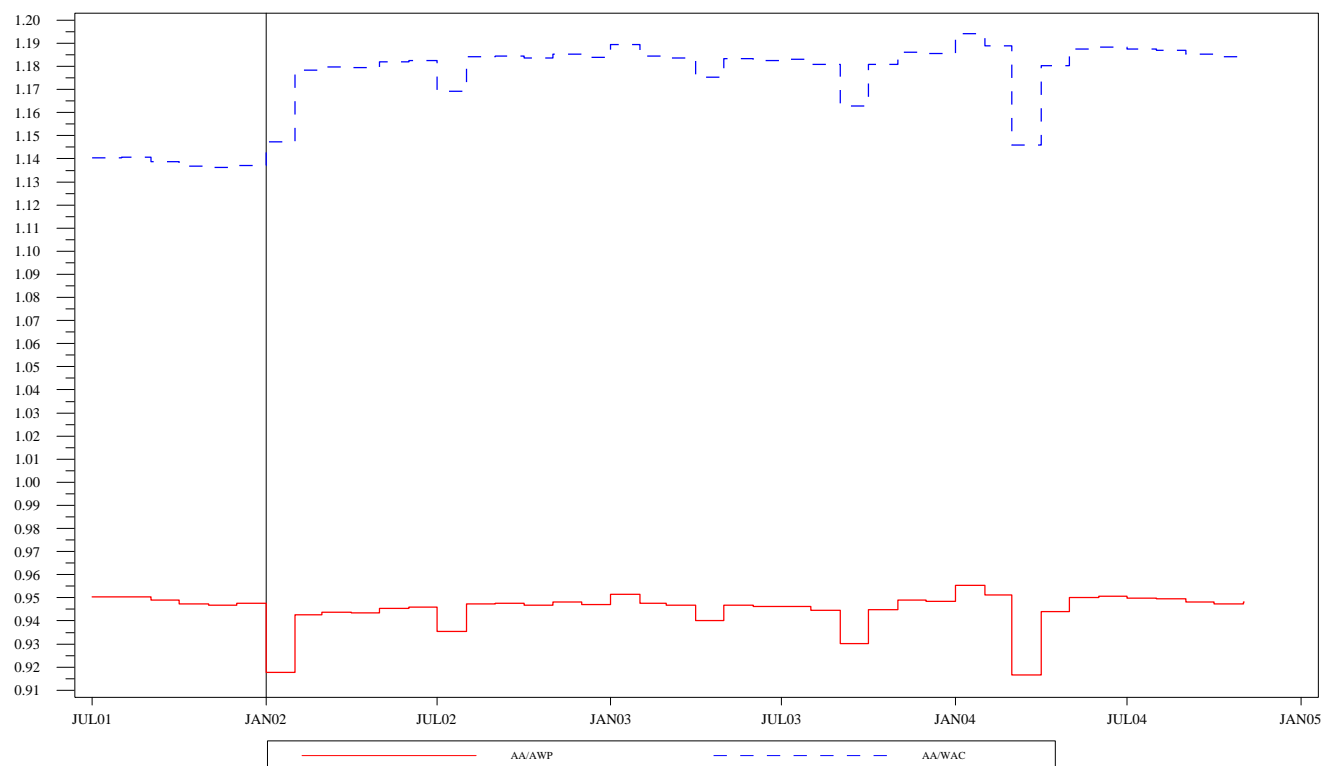
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC

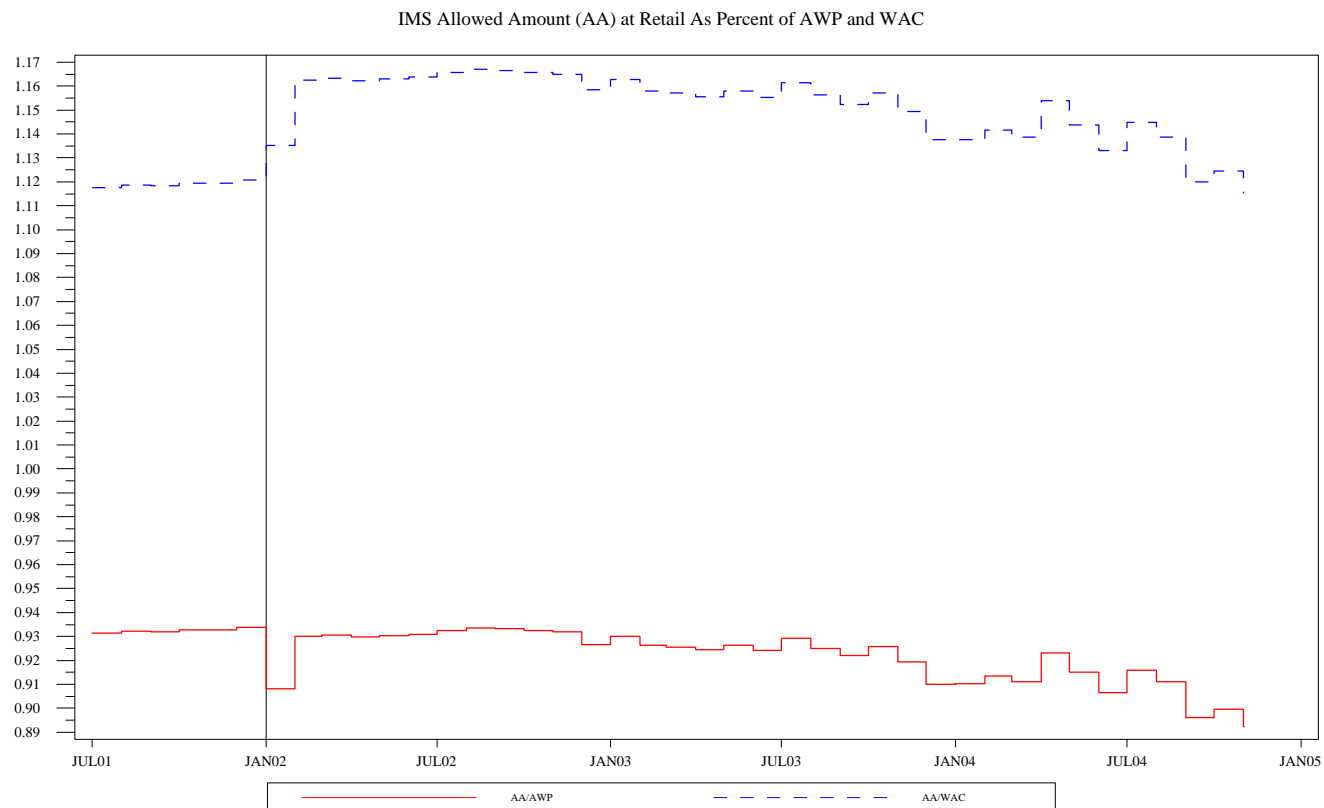
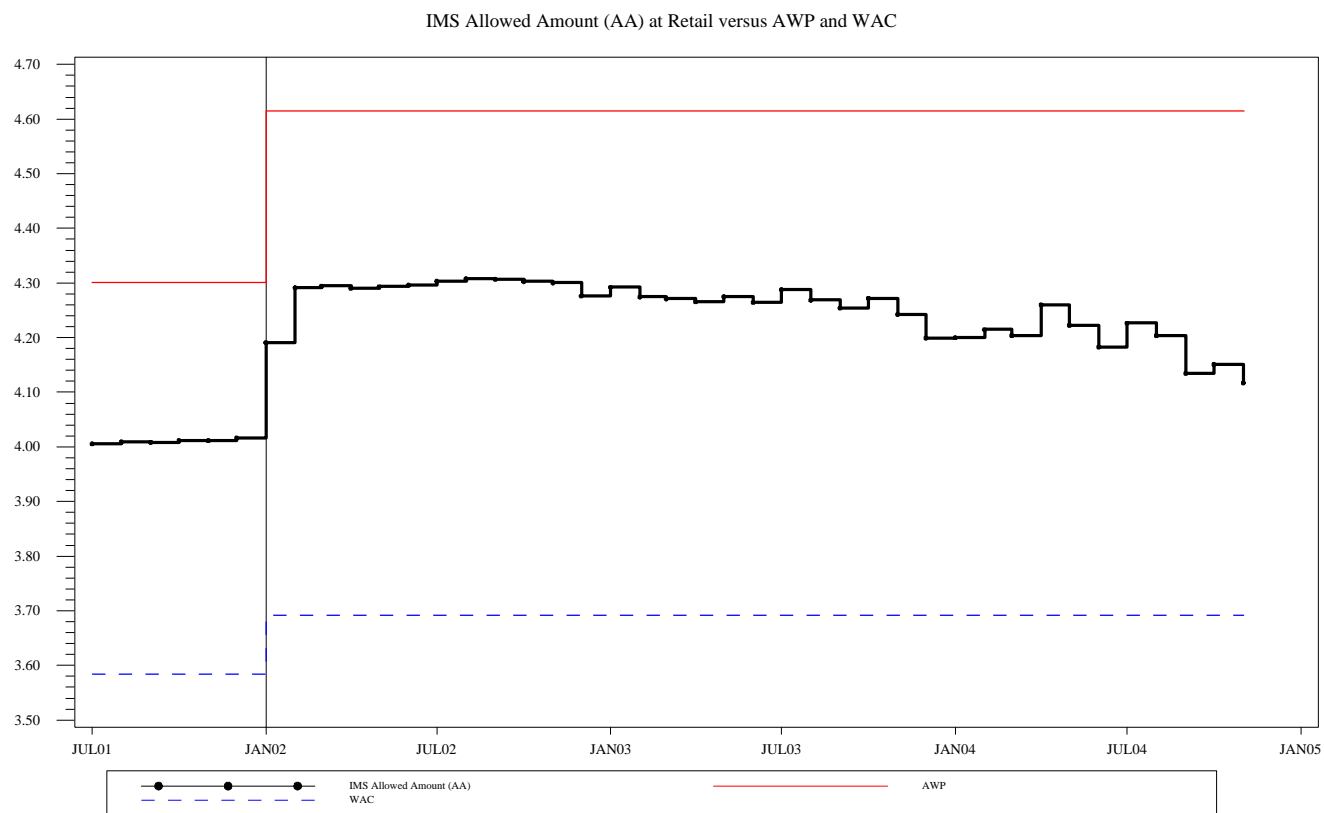


IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

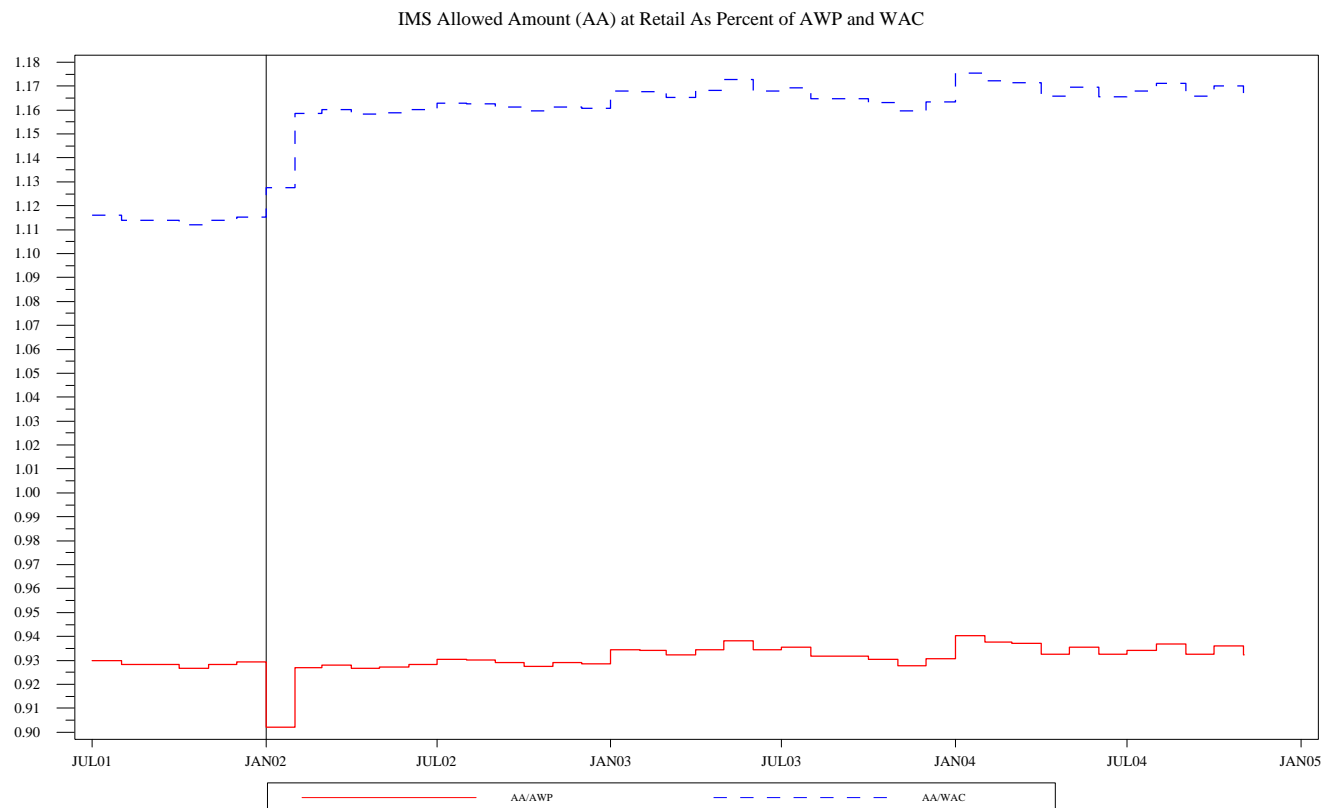
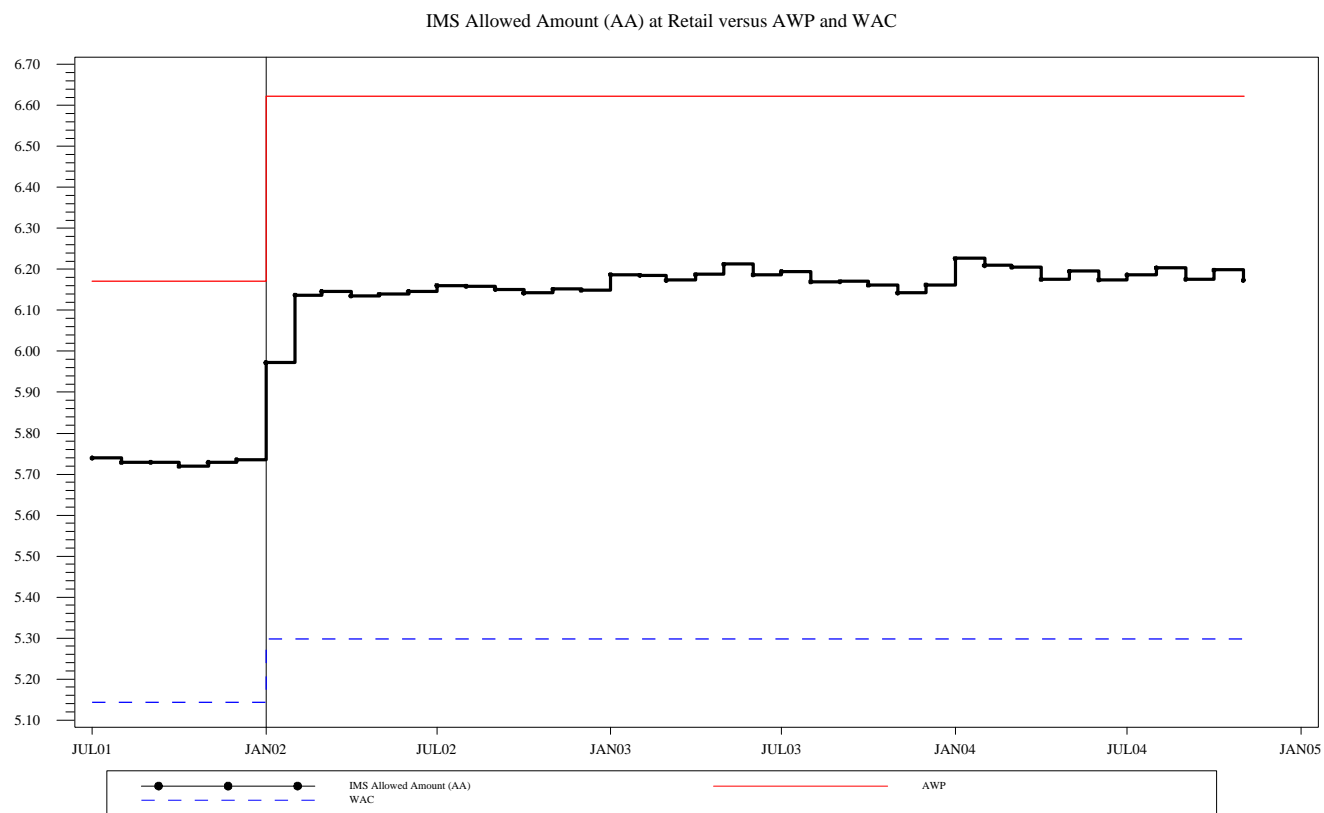
*Subject to Protective Order*



Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

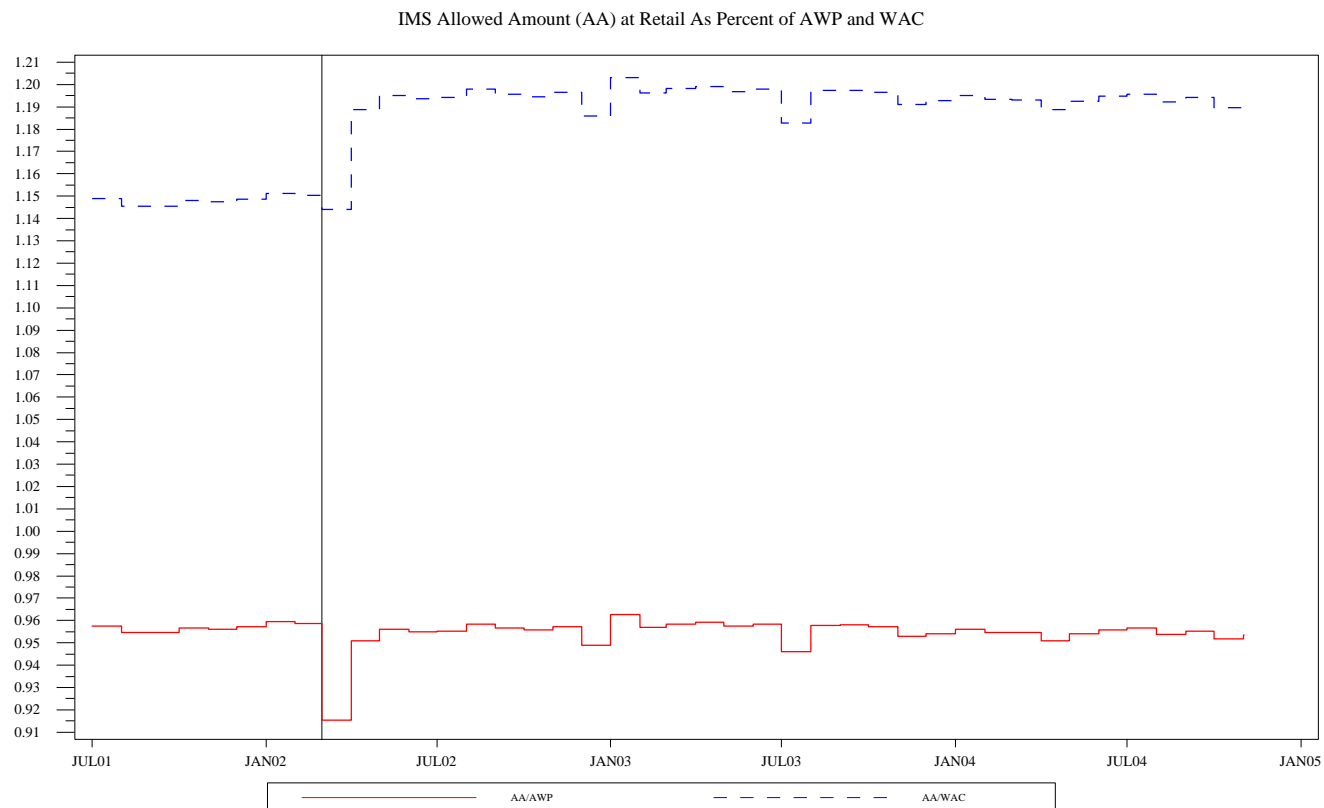
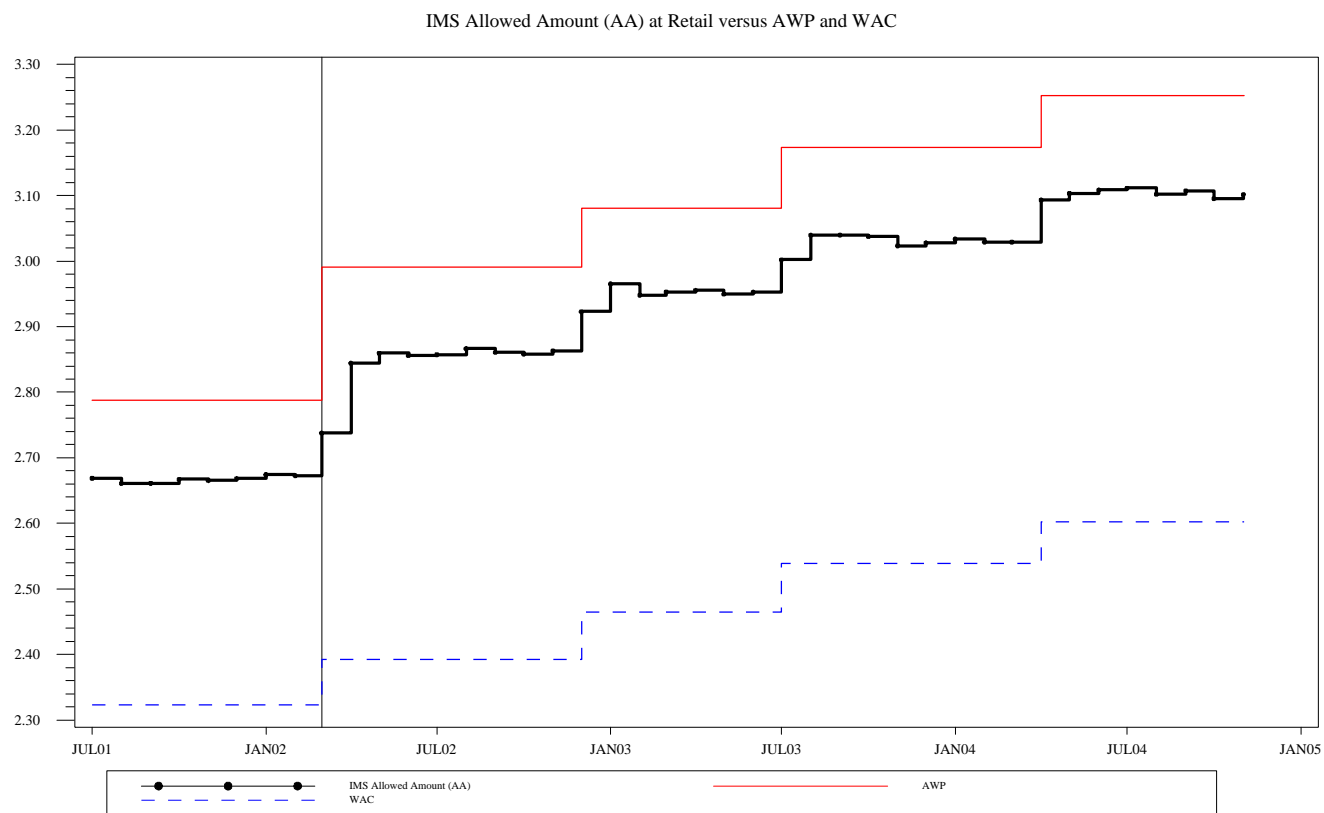
*Subject to Protective Order*





Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

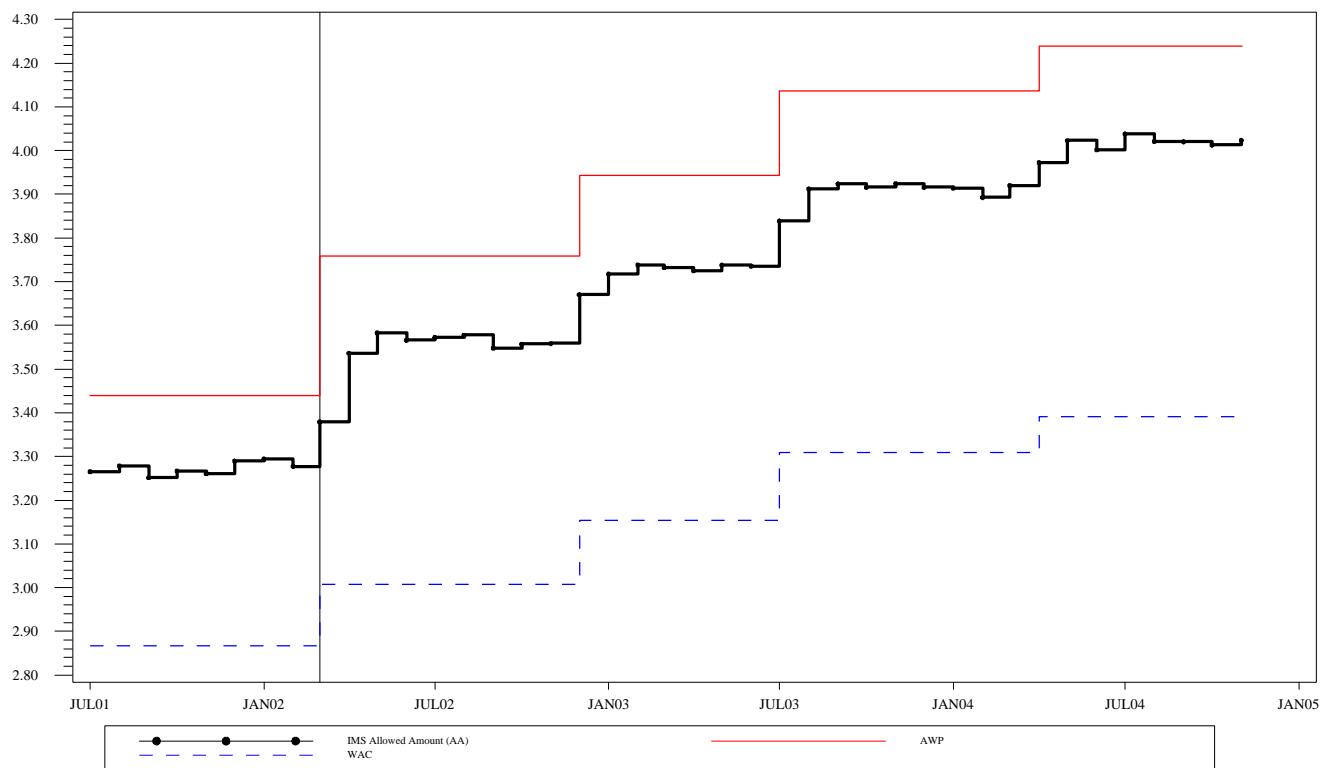


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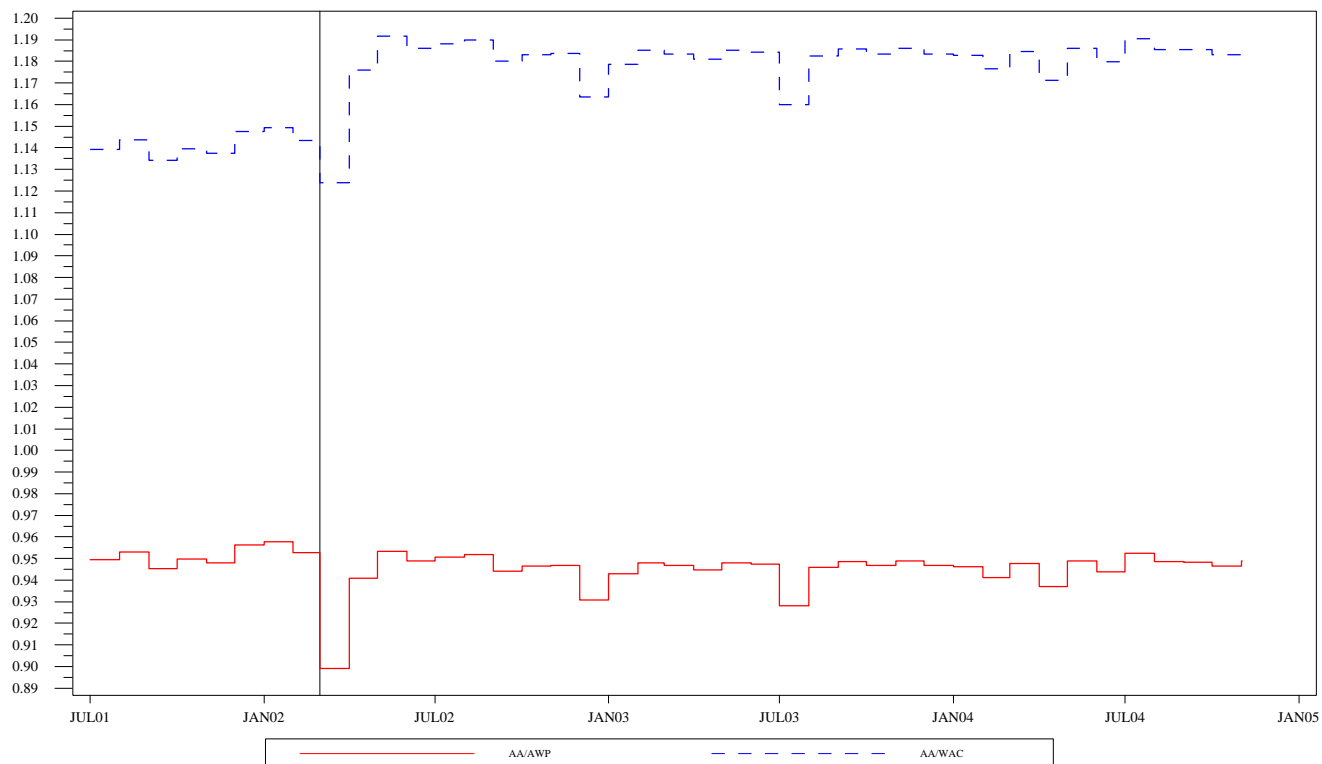
*Subject to Protective Order*

# RISPERDAL 1MG/ML

IMS Allowed Amount (AA) at Retail versus AWP and WAC



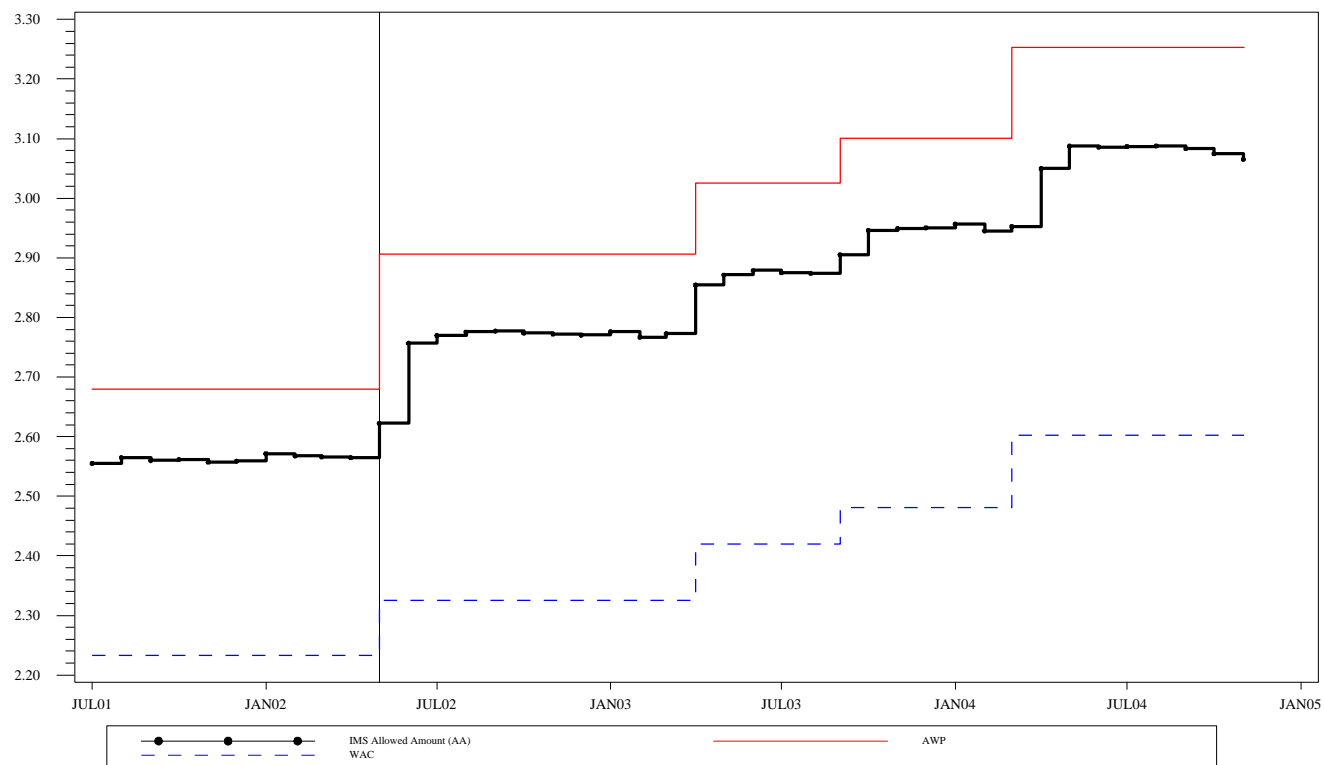
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



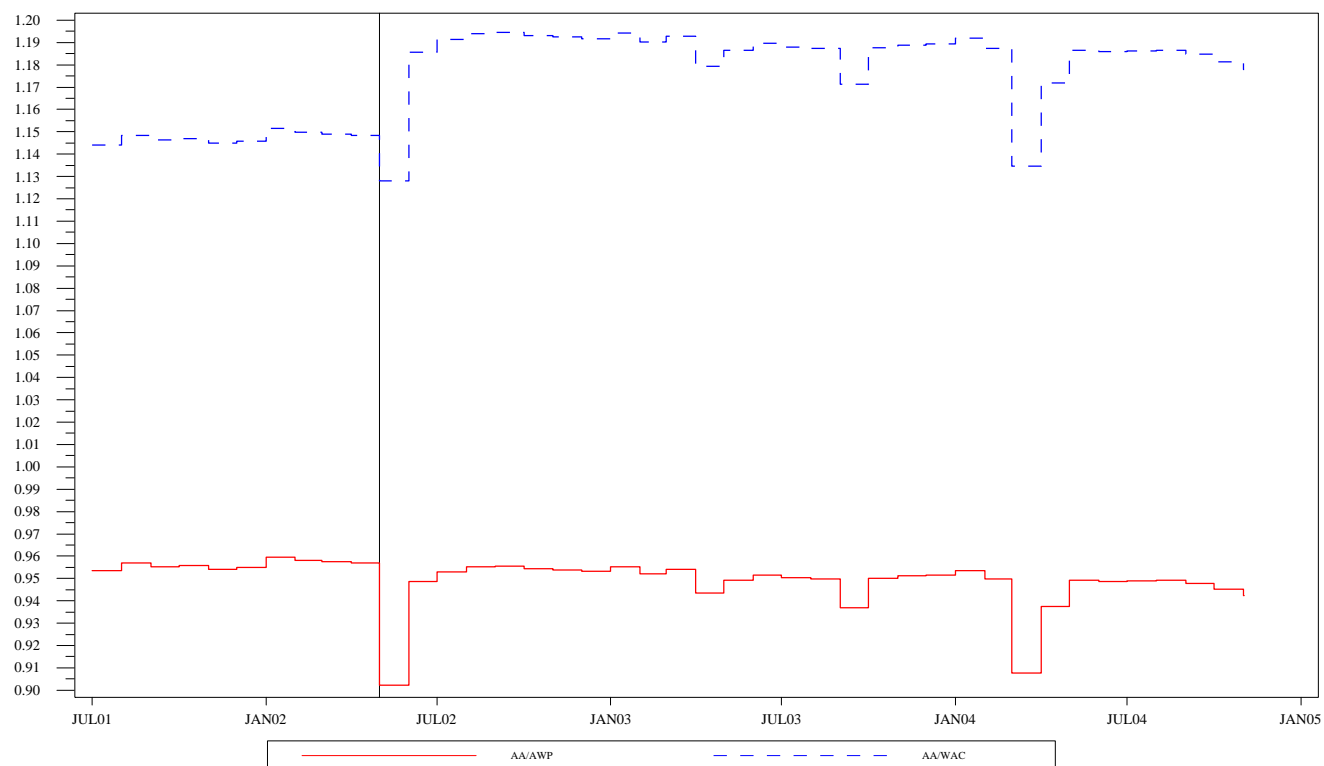
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



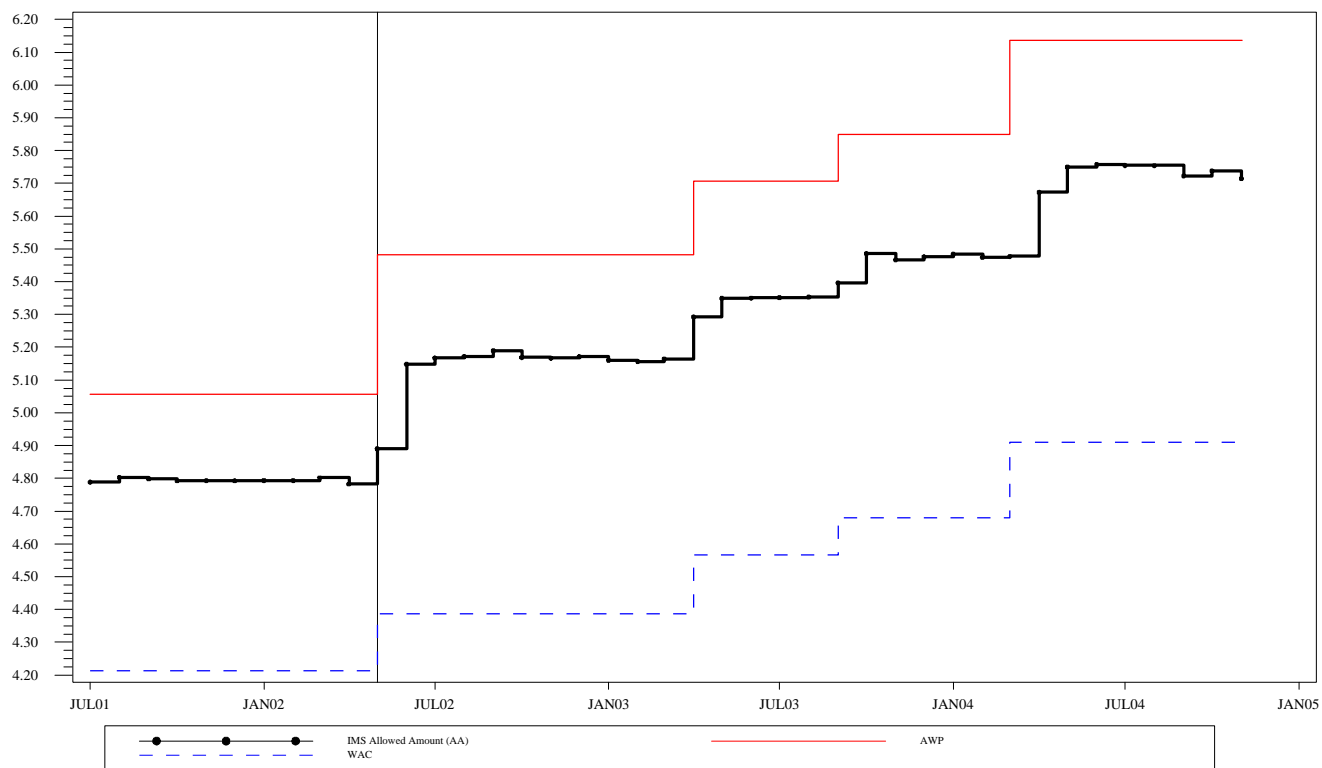
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



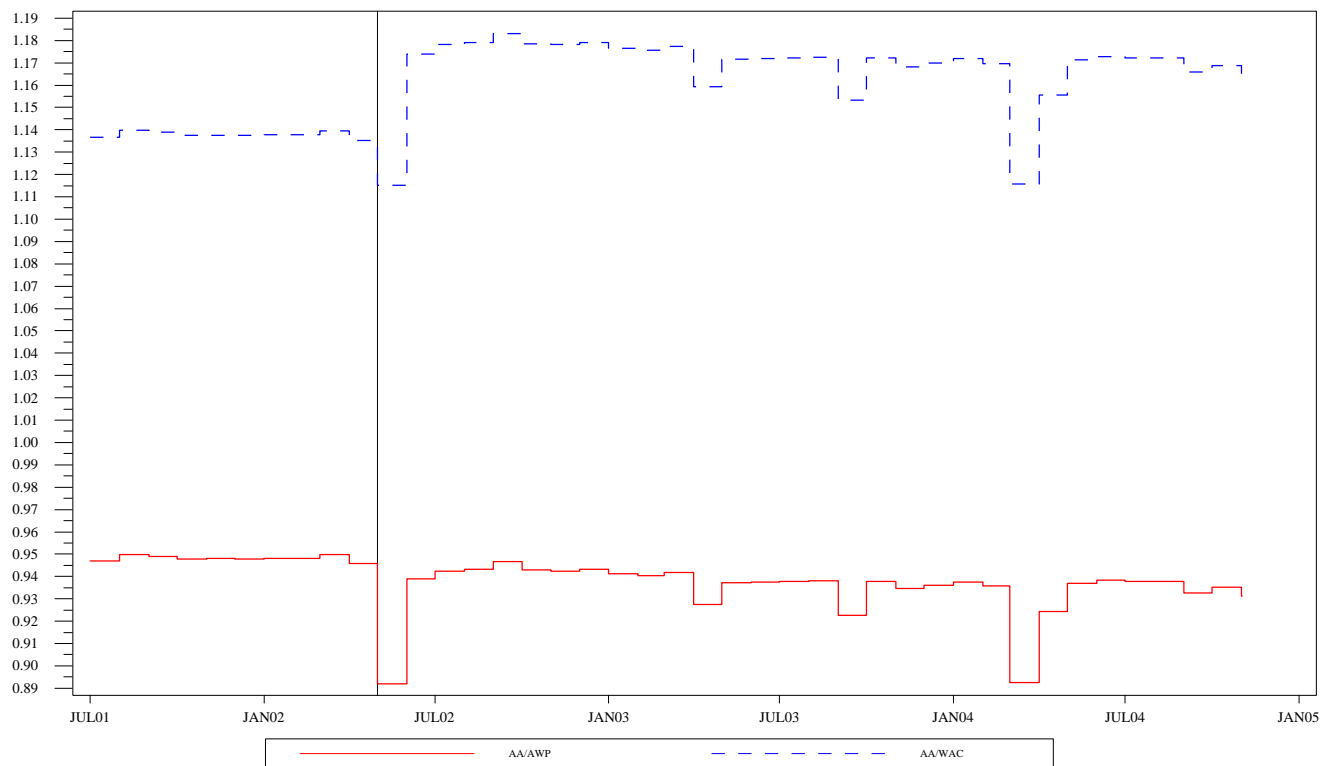
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



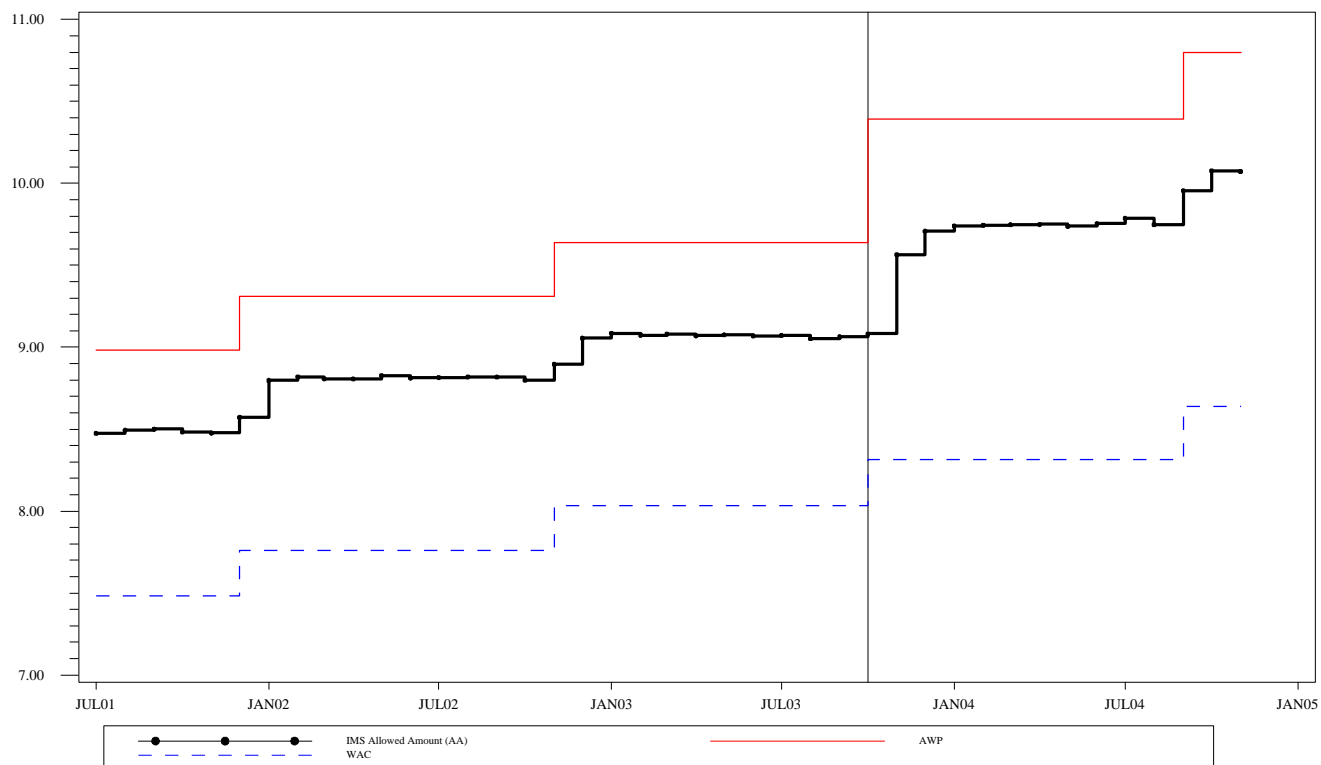
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



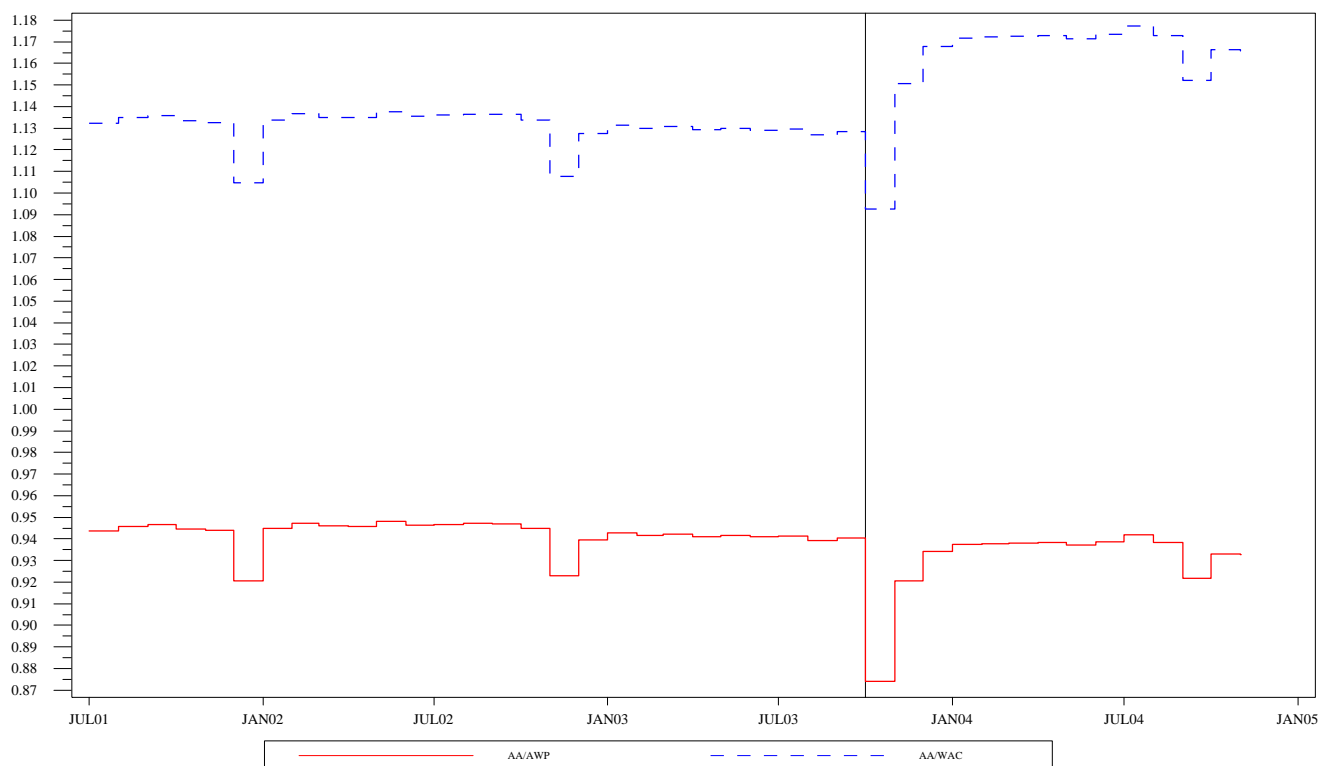
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



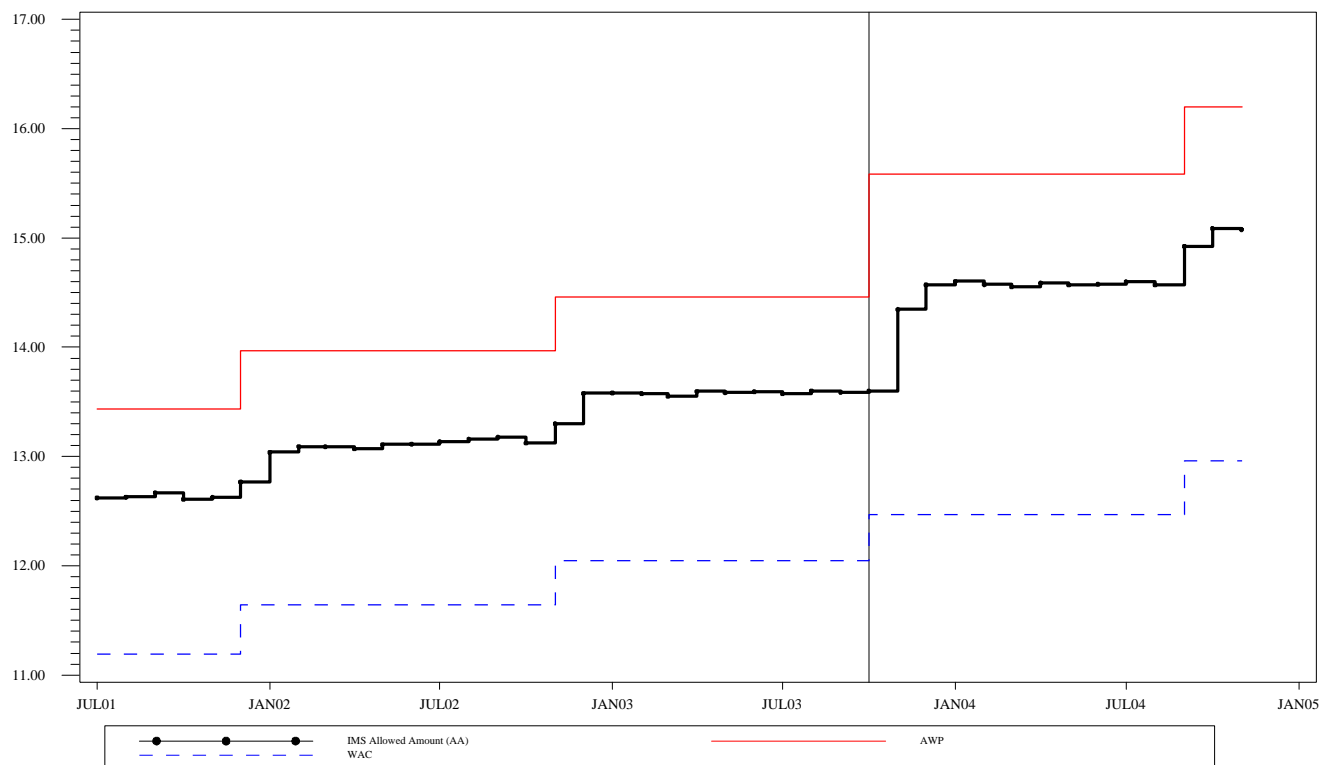
IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



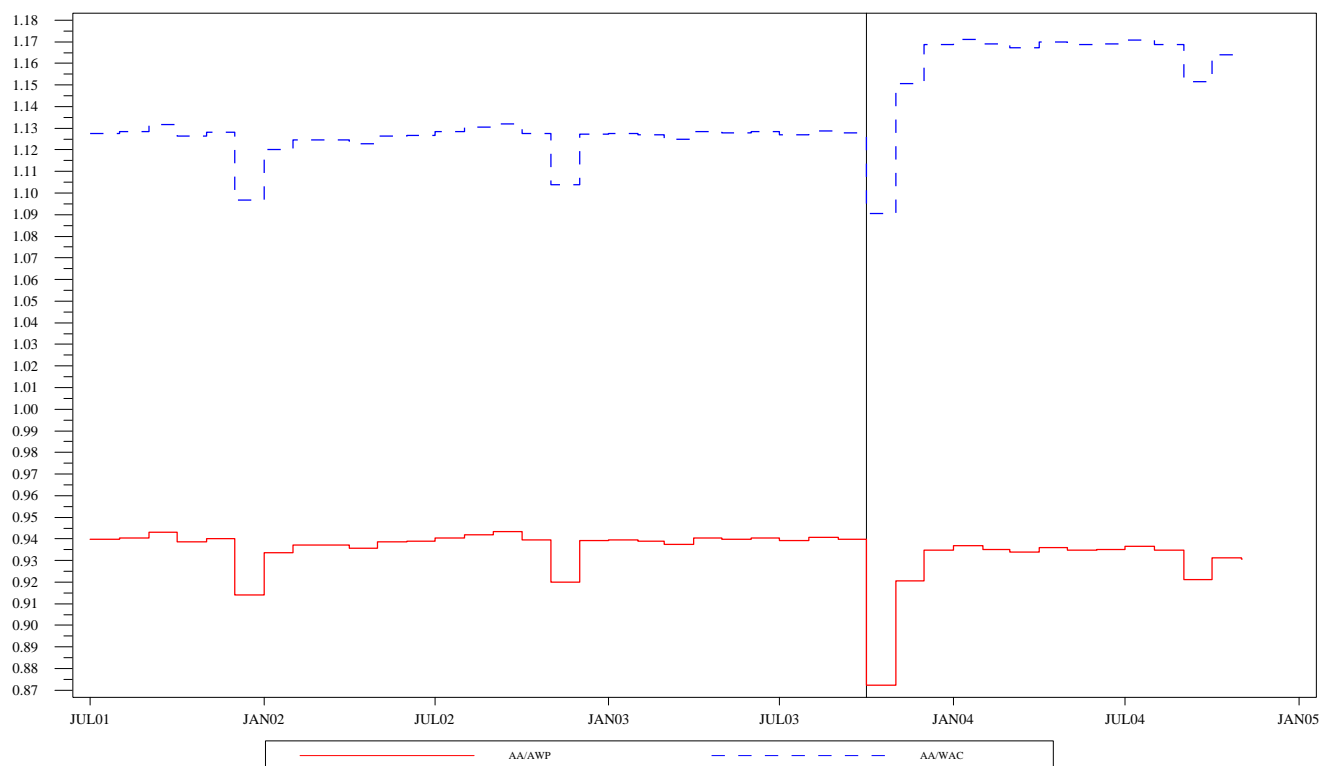
Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



Note: The vertical line indicates the date at which the 5% Scheme was implemented for the drug/dosage.

*Subject to Protective Order*

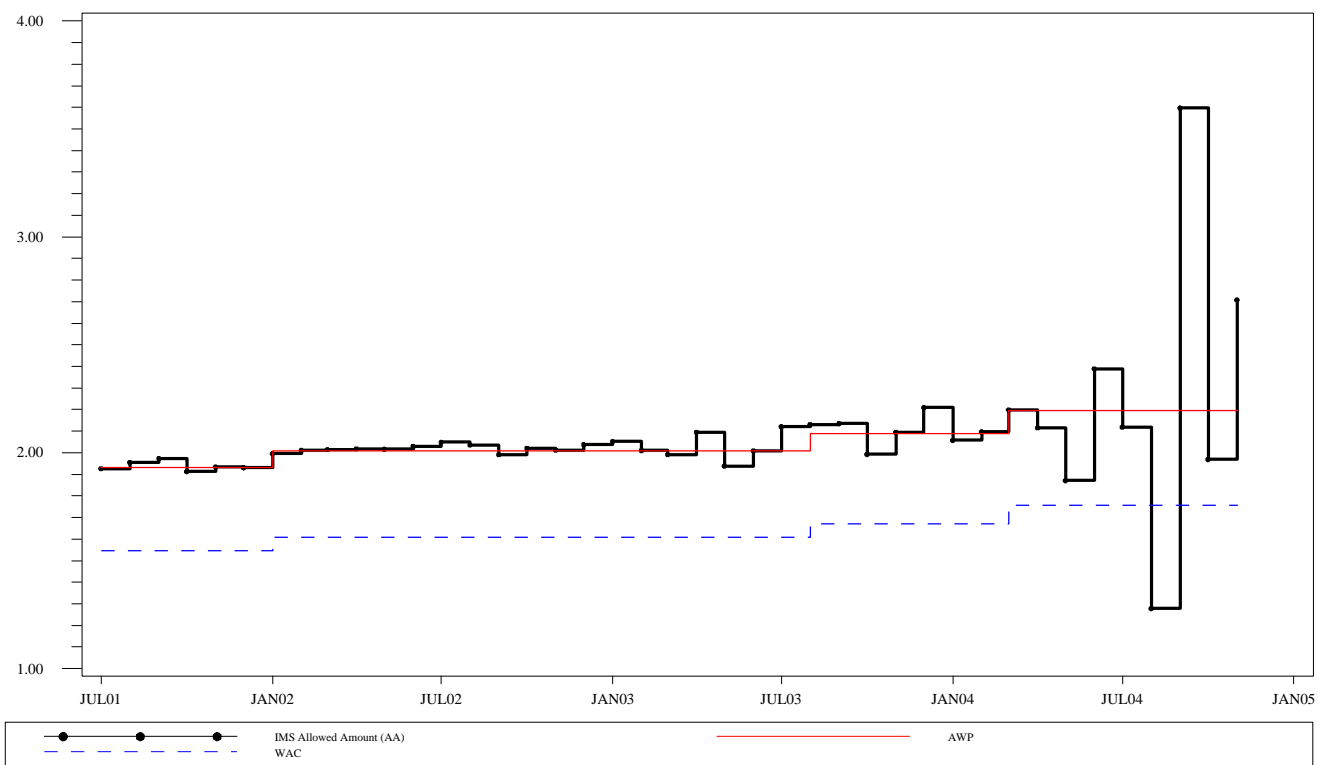


**ATTACHMENT F: FIGURE F.4**

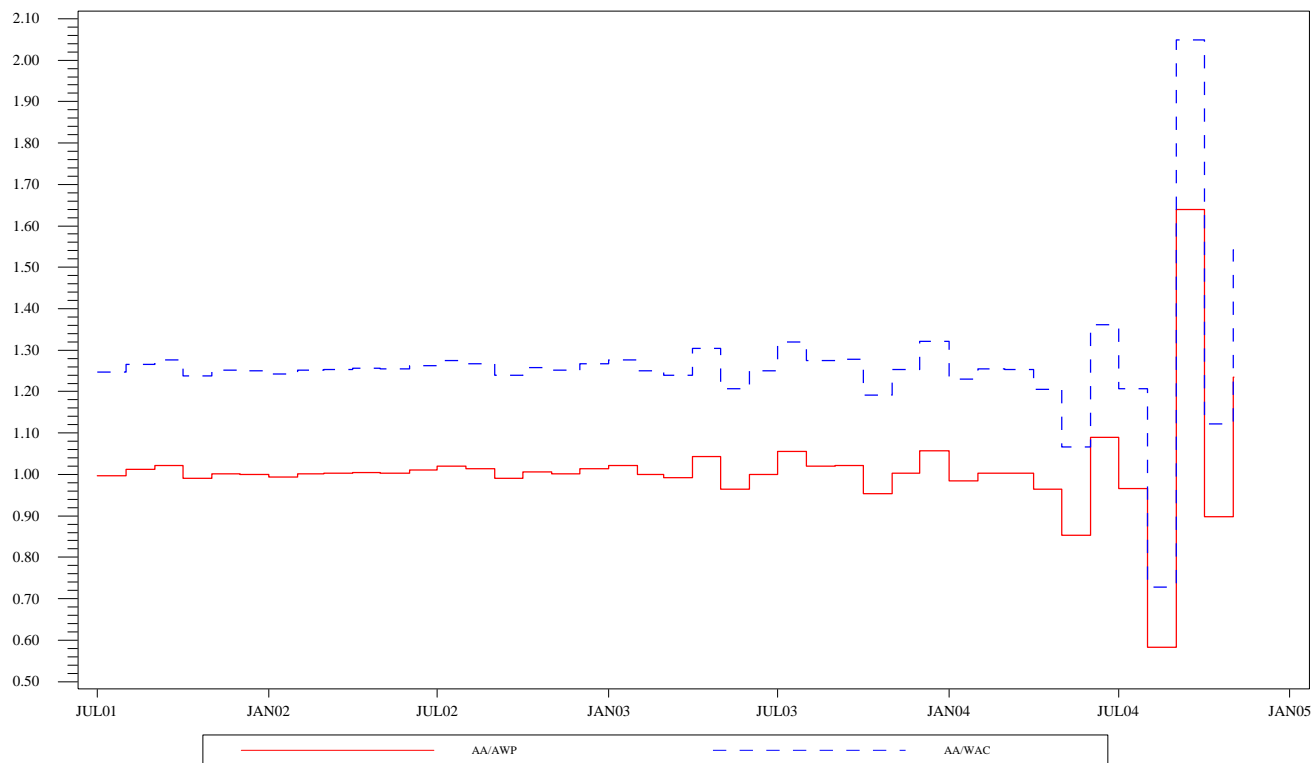
Figure F.4.a

# AUGMENTIN 200MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC



*Subject to Protective Order*

Figure F.4.b

## AUGMENTIN 200MG/

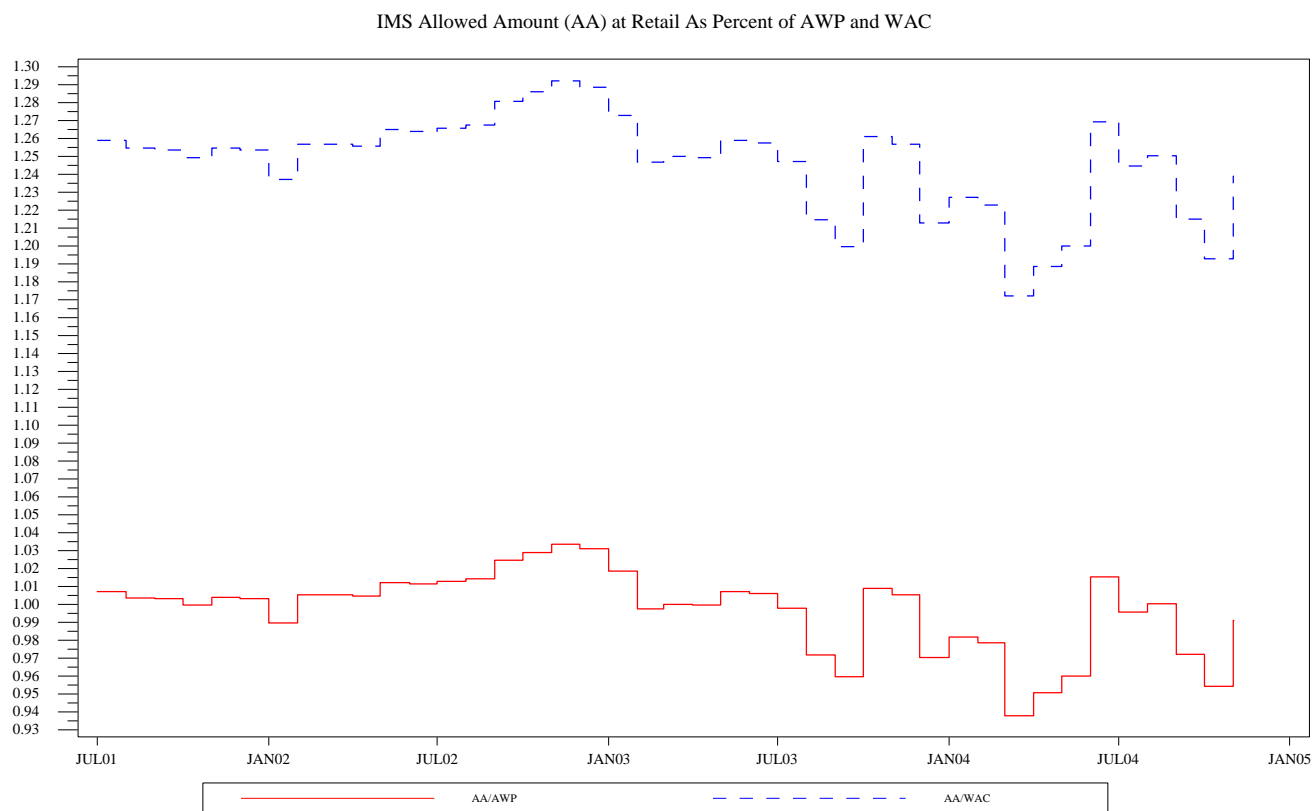
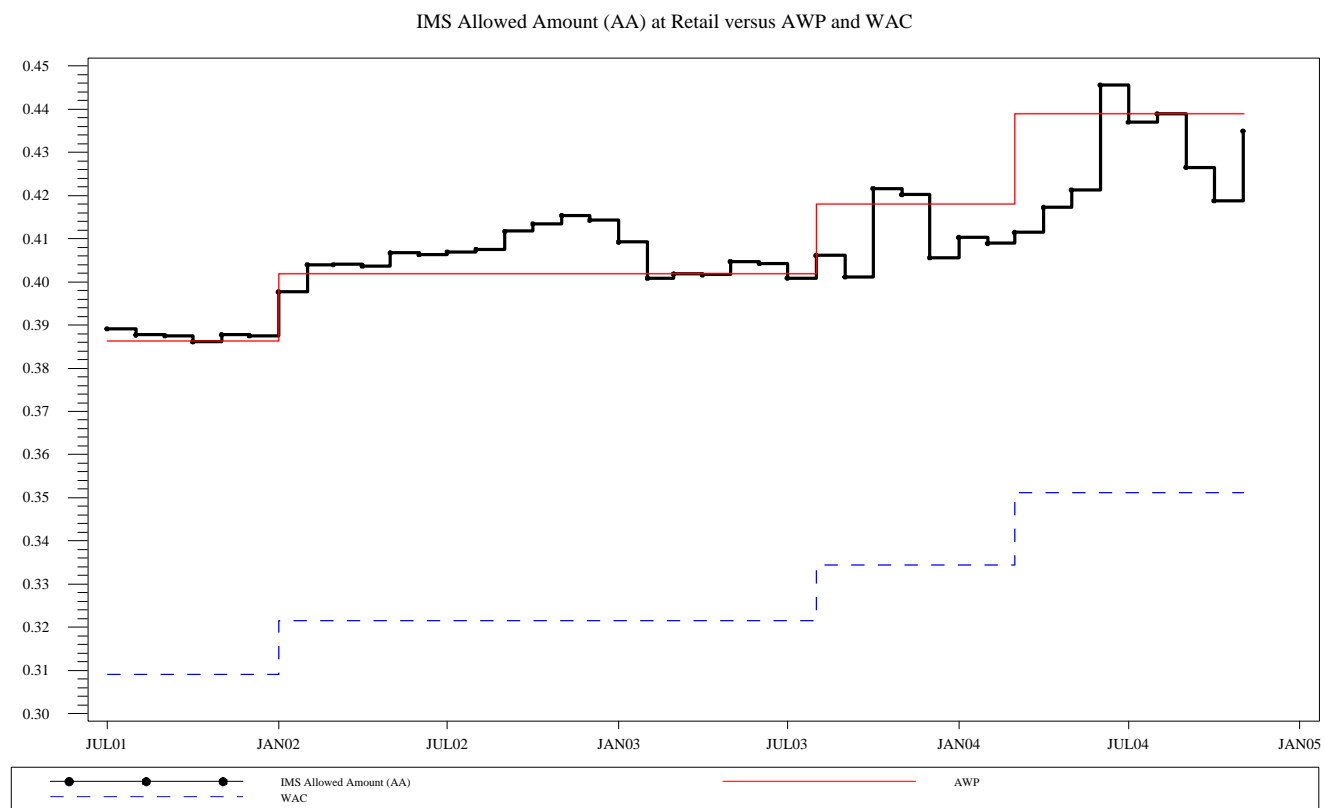
*Subject to Protective Order*

Figure F.4.c

## AUGMENTIN 500MG

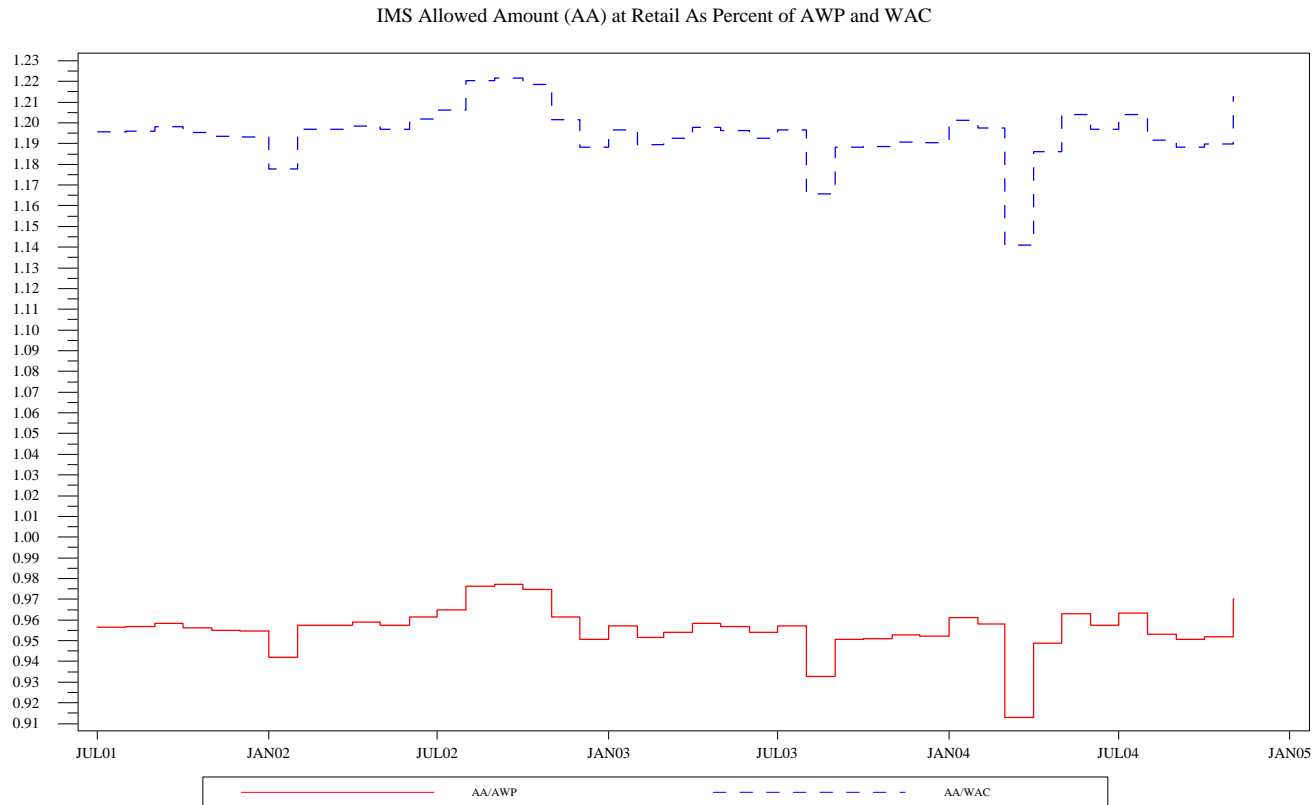
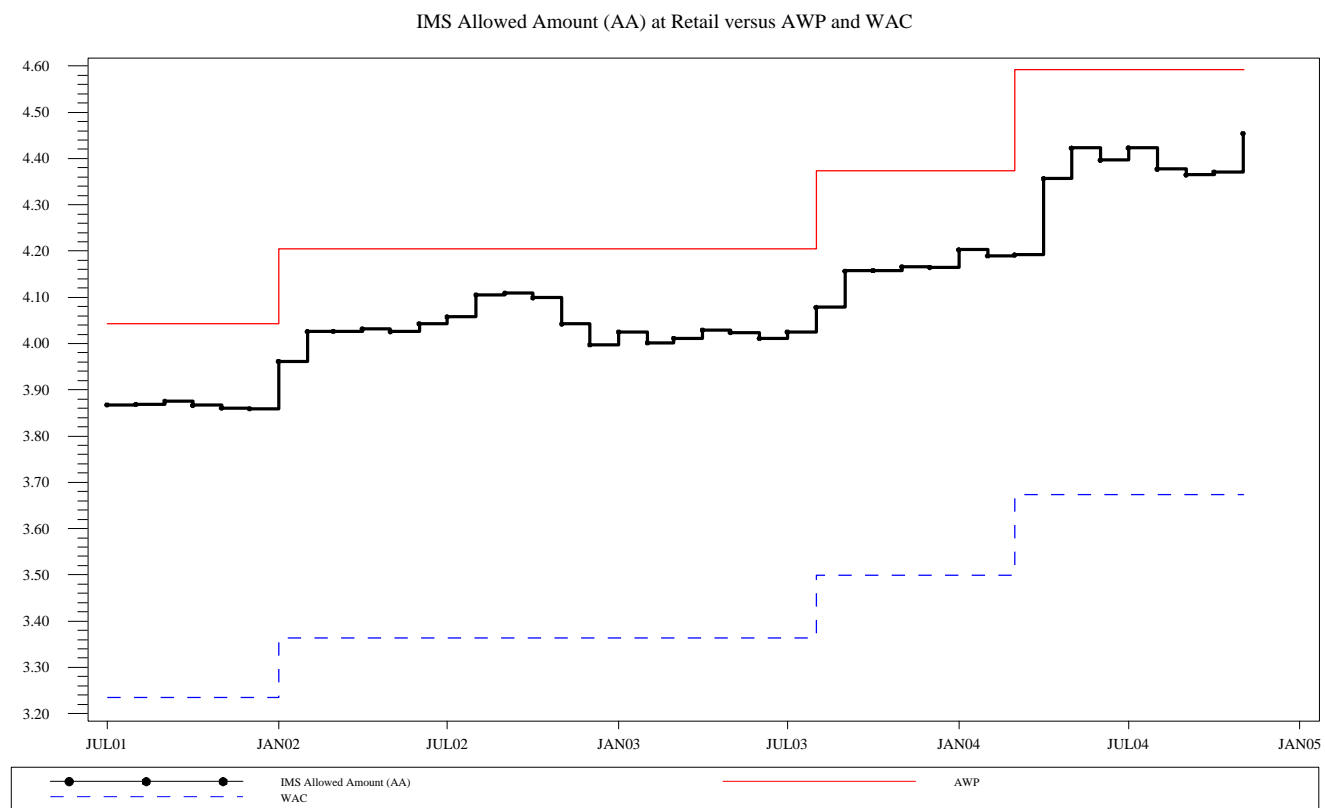
*Subject to Protective Order*

Figure F.4.d

## FOSAMAX 10MG

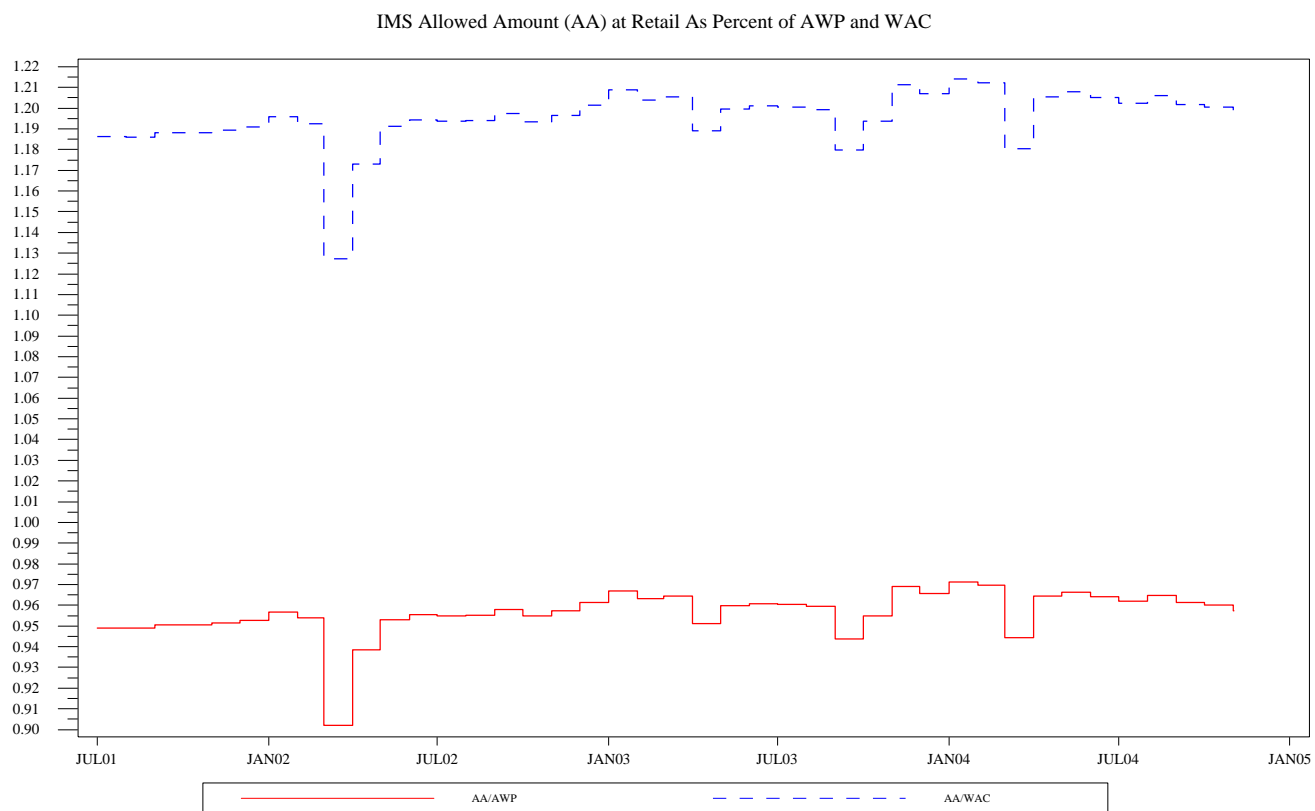
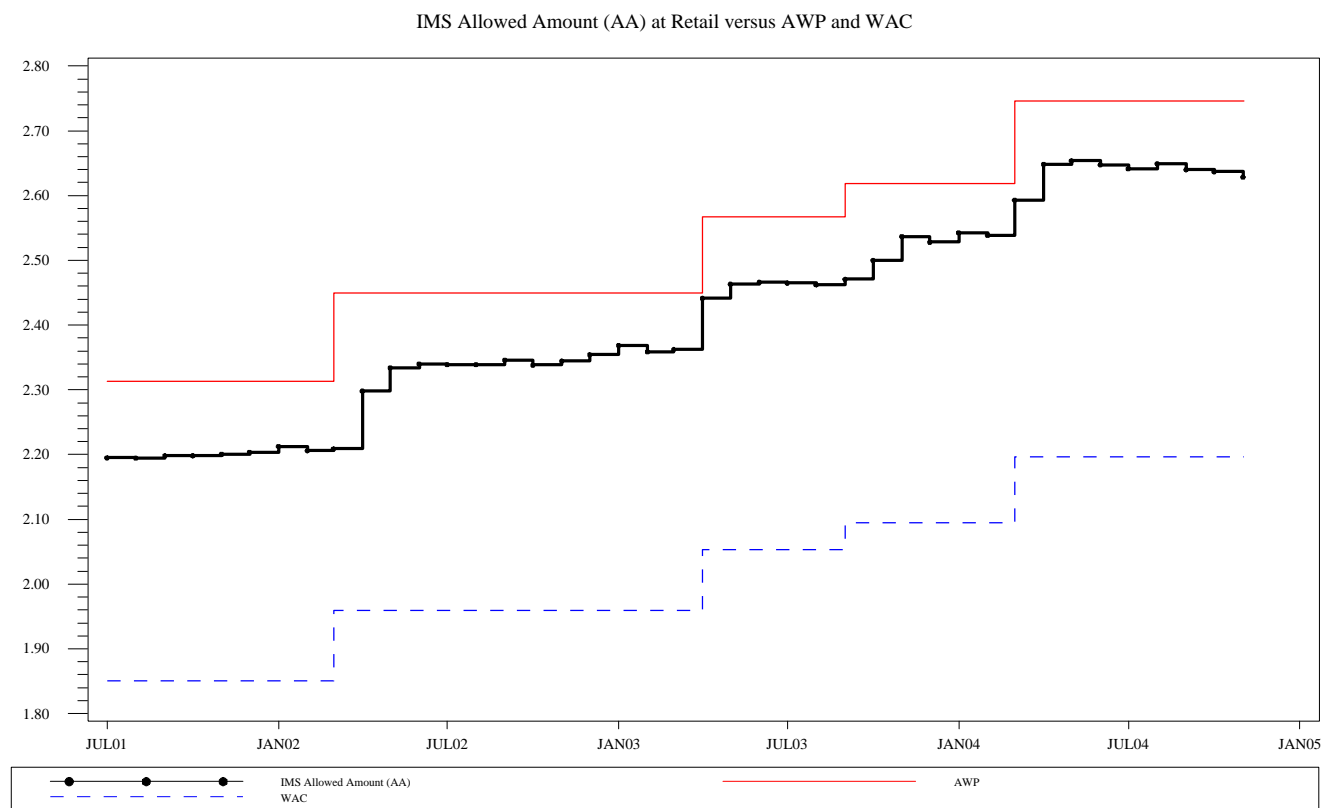
*Subject to Protective Order*

Figure F.4.e

## FOSAMAX 35MG

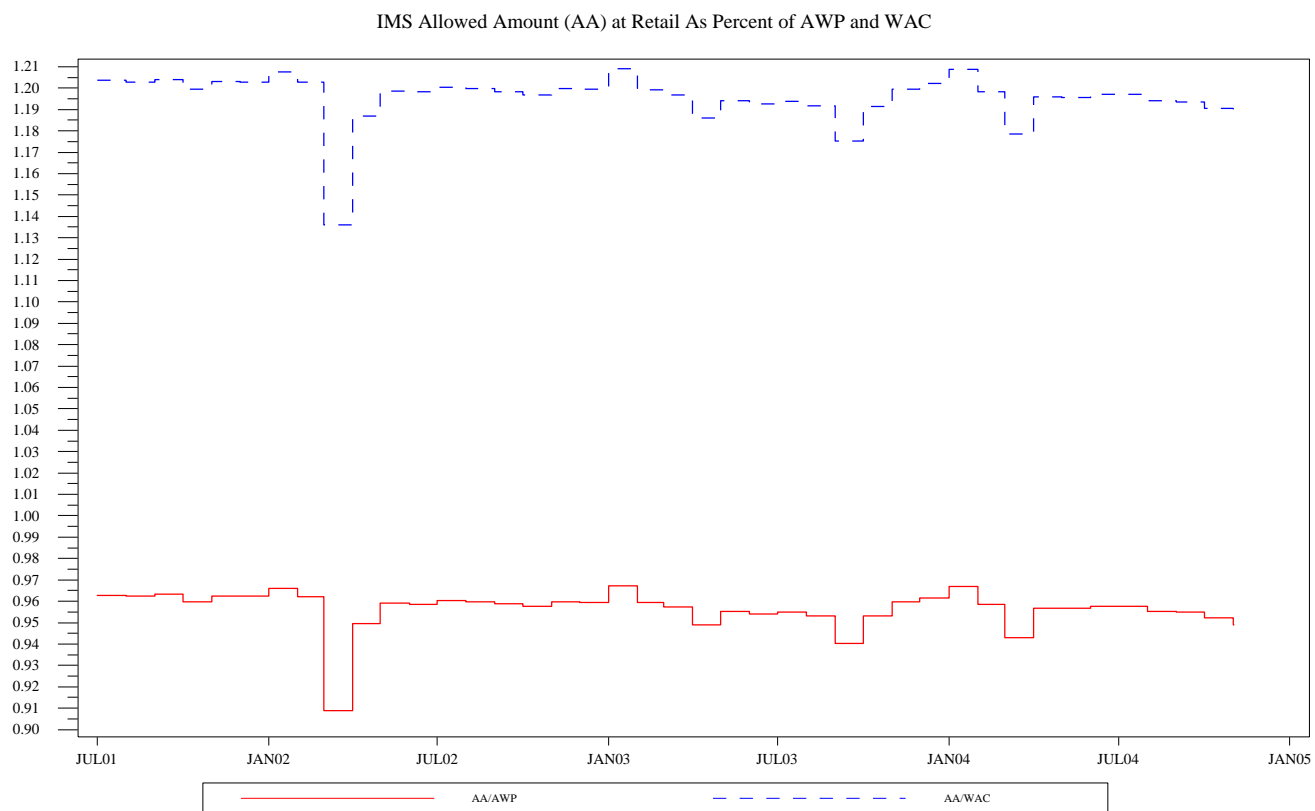
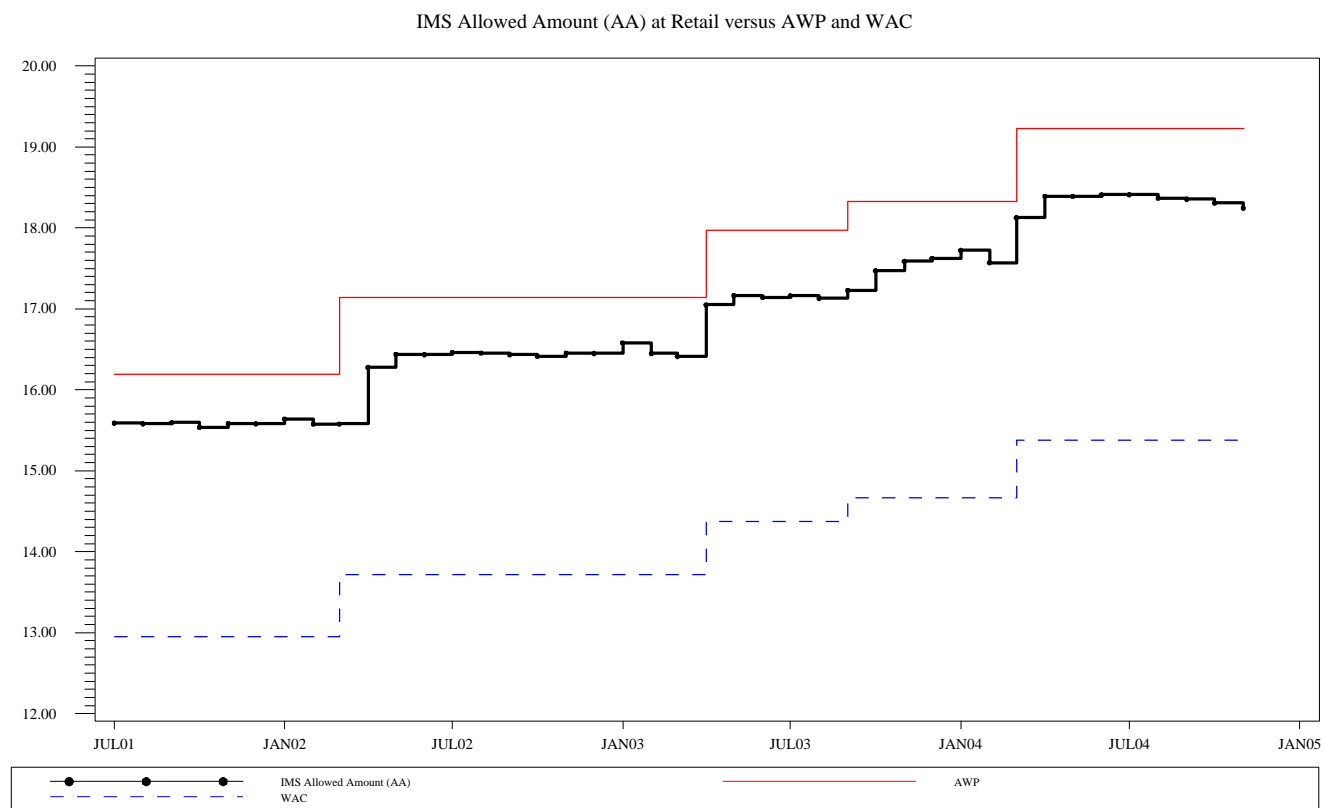
*Subject to Protective Order*

Figure F.4.f

## NORVASC 2.5MG

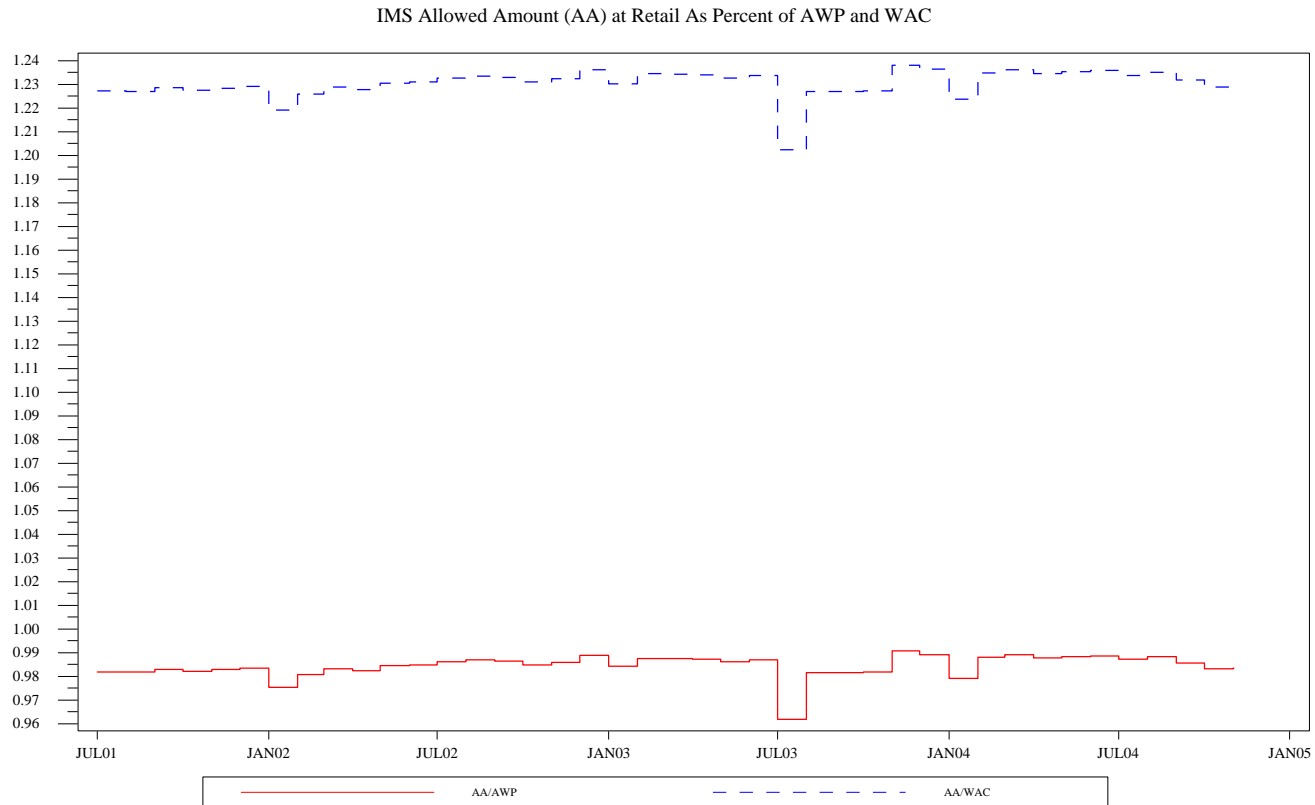
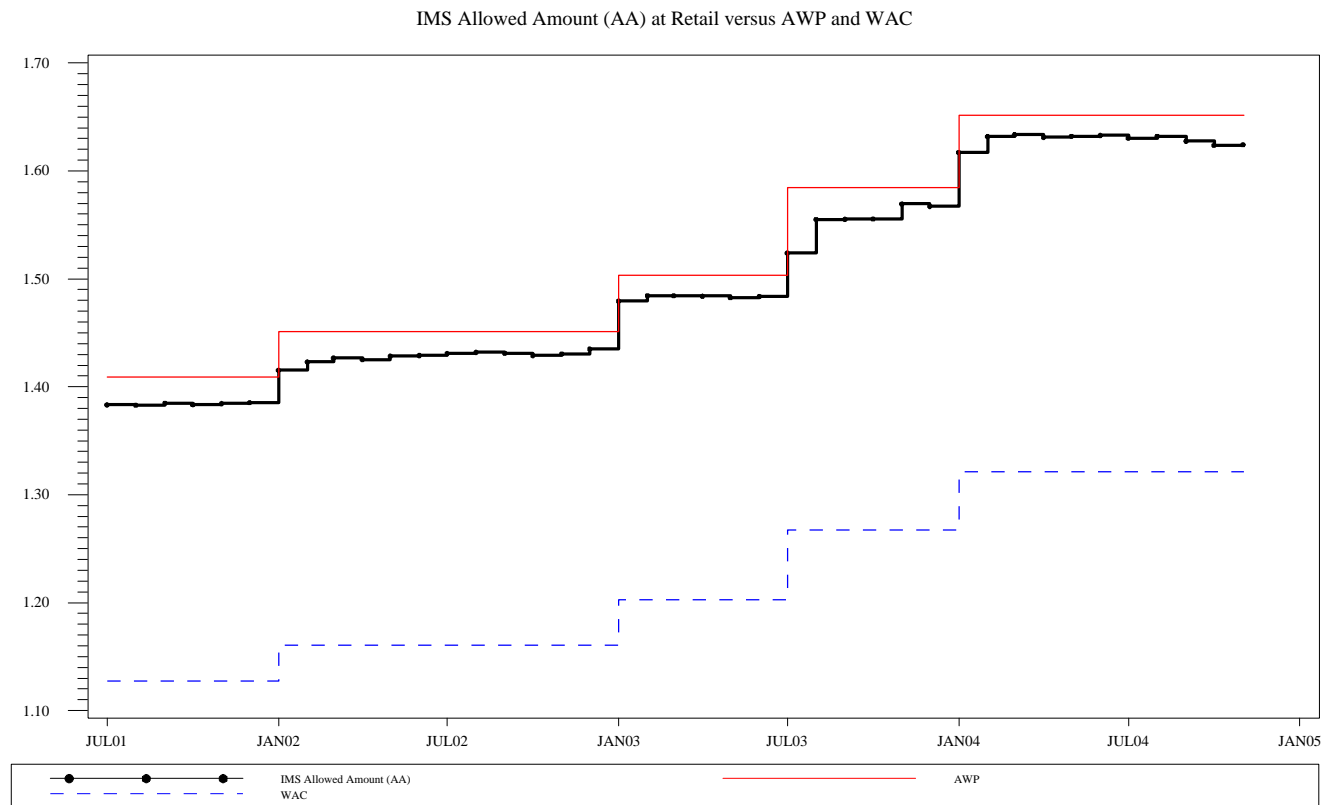
*Subject to Protective Order*

Figure F.4.g

## NORVASC 10MG

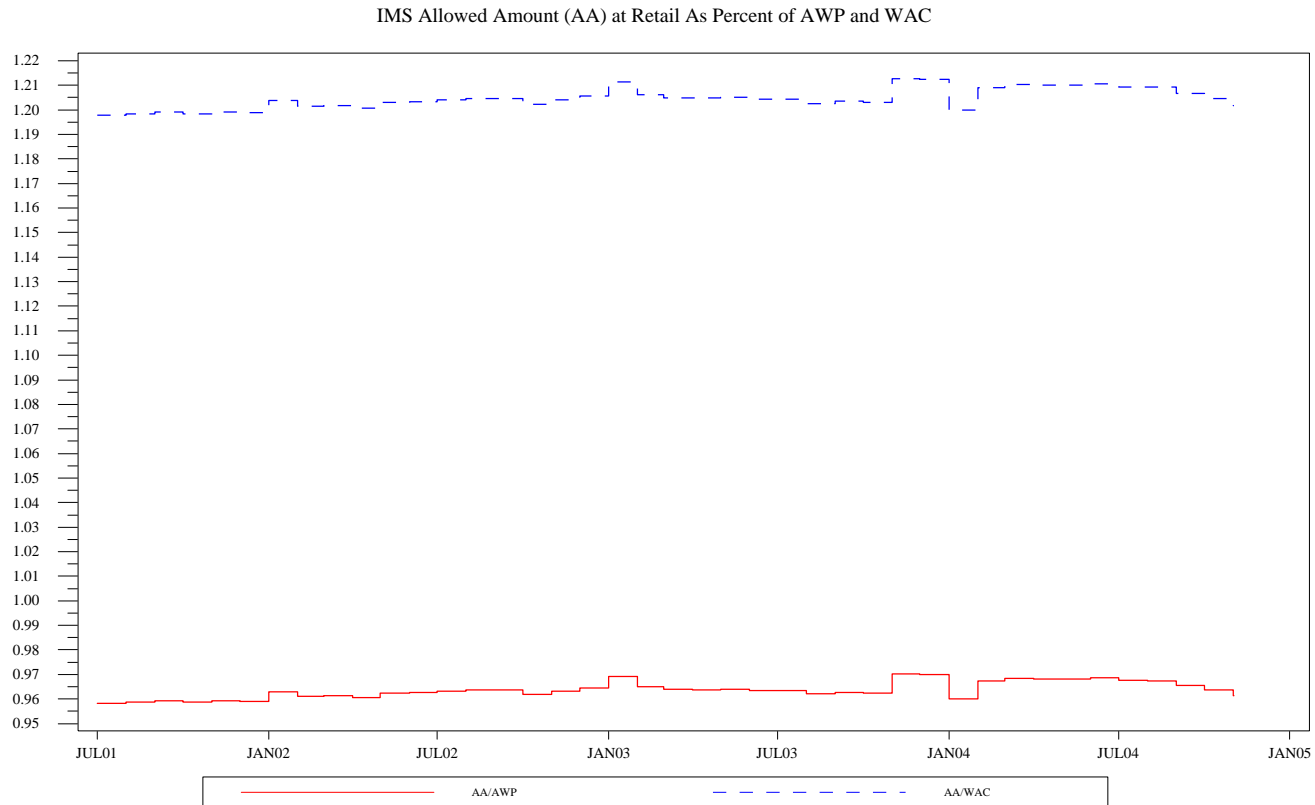
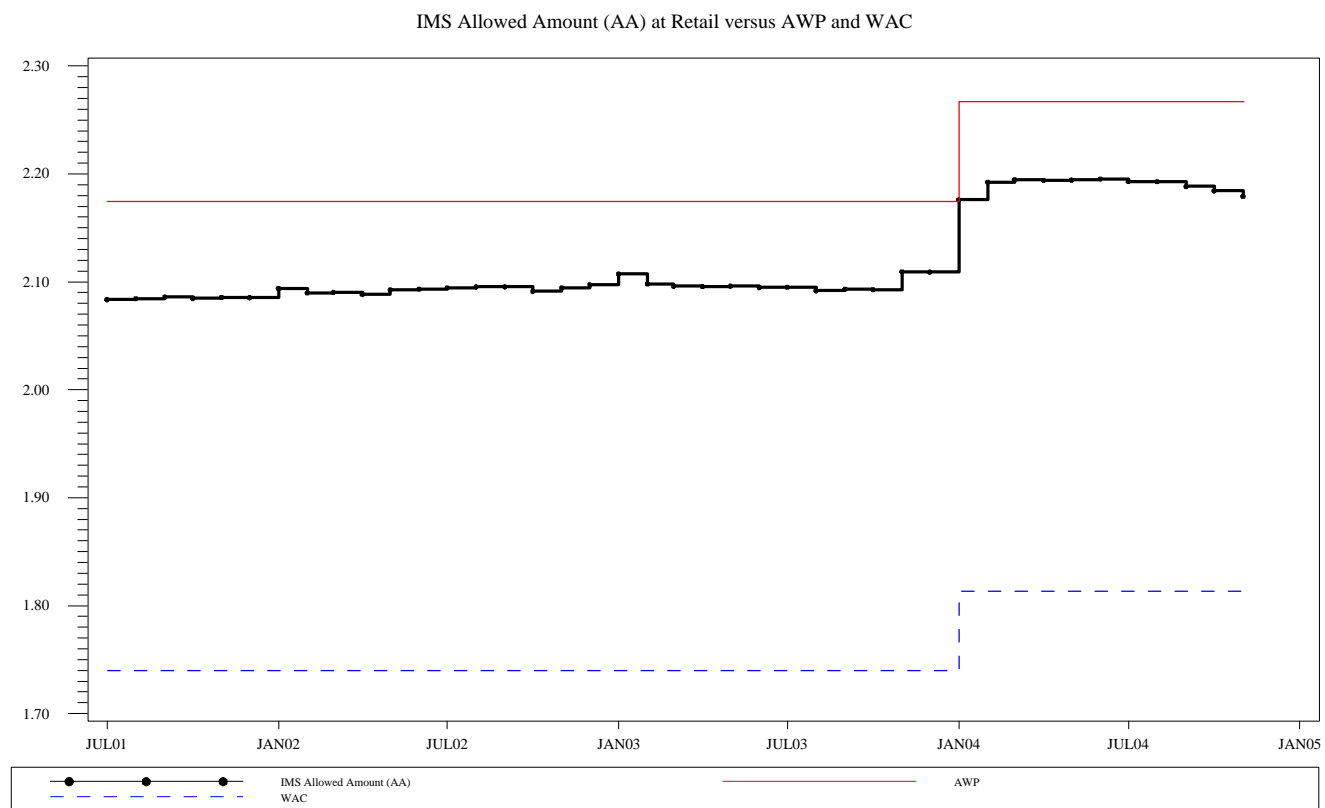
*Subject to Protective Order*



Figure F.4.h

## PAXIL 20MG

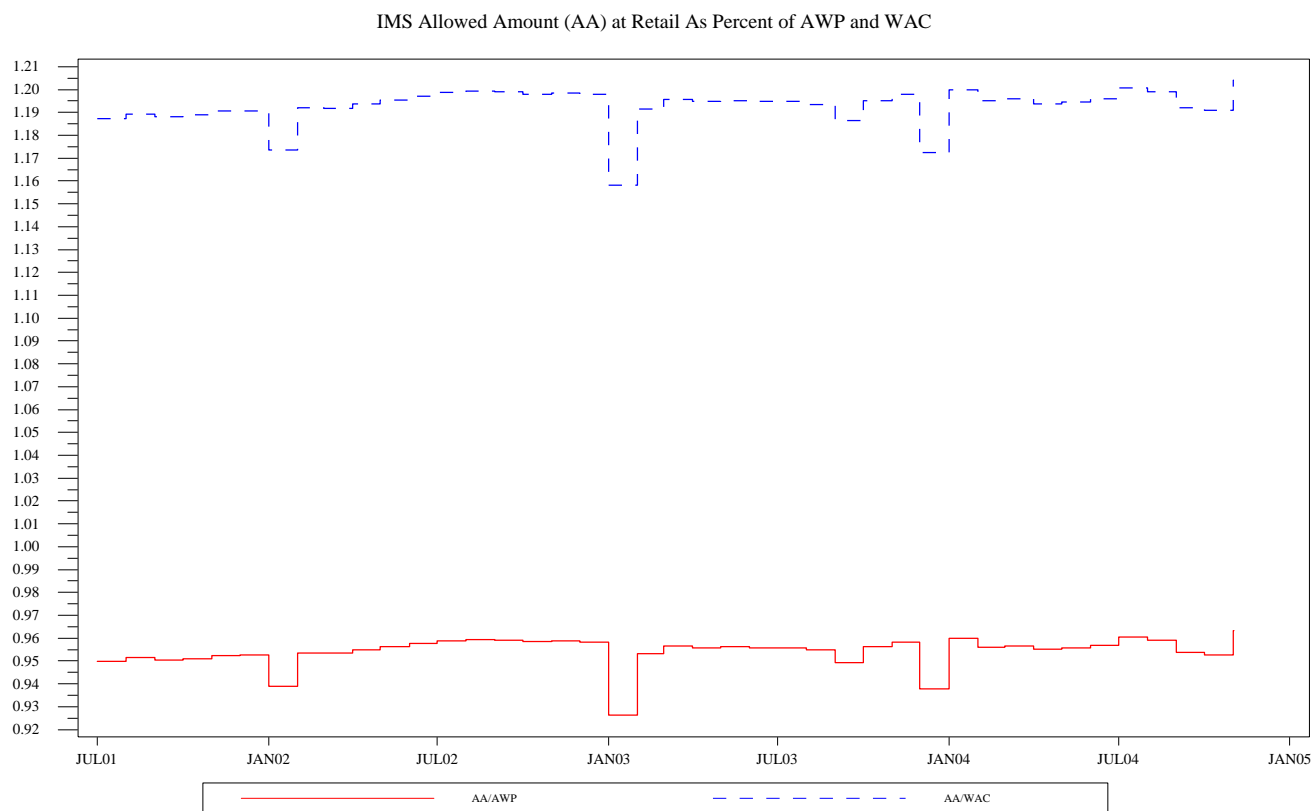
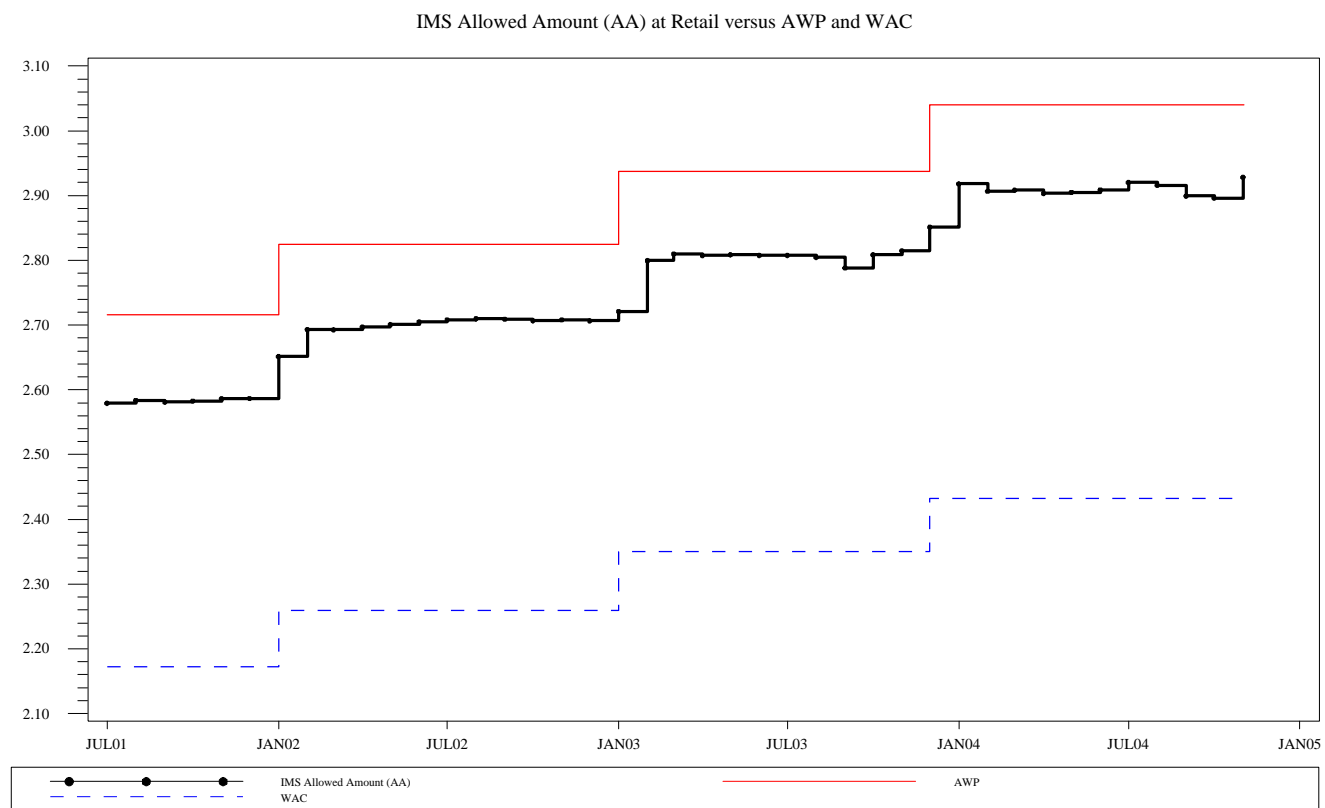
*Subject to Protective Order*

Figure F.4.i

## PAXIL 30MG

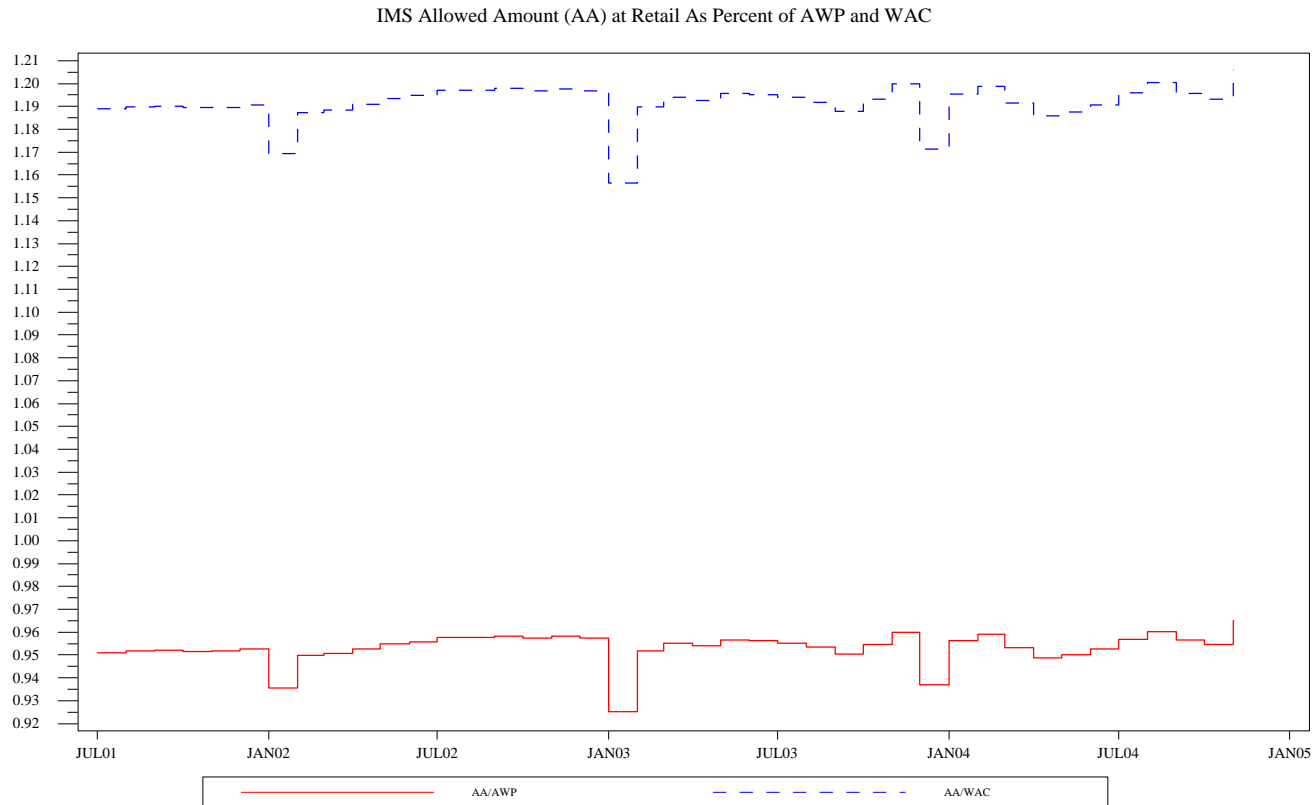
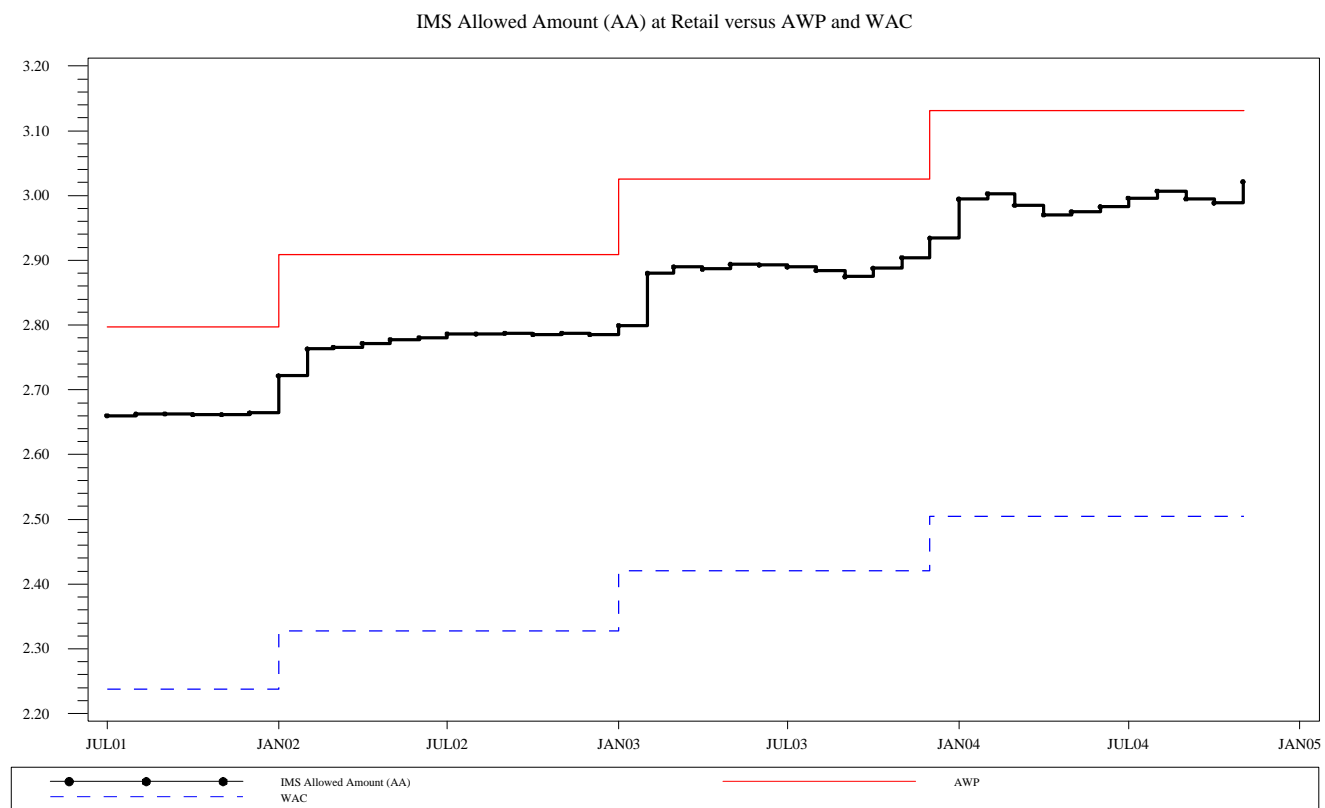
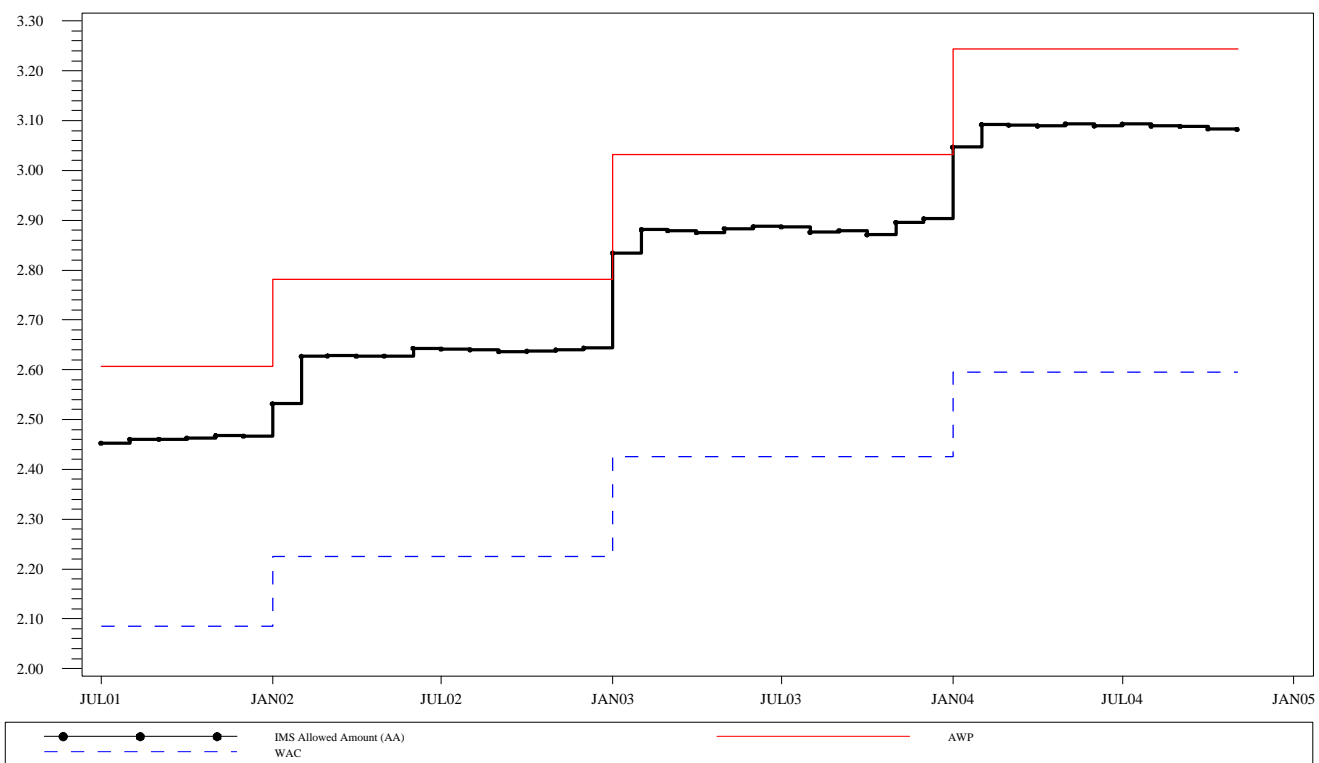
*Subject to Protective Order*

Figure F.4.j

## PRAVACHOL 10MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC

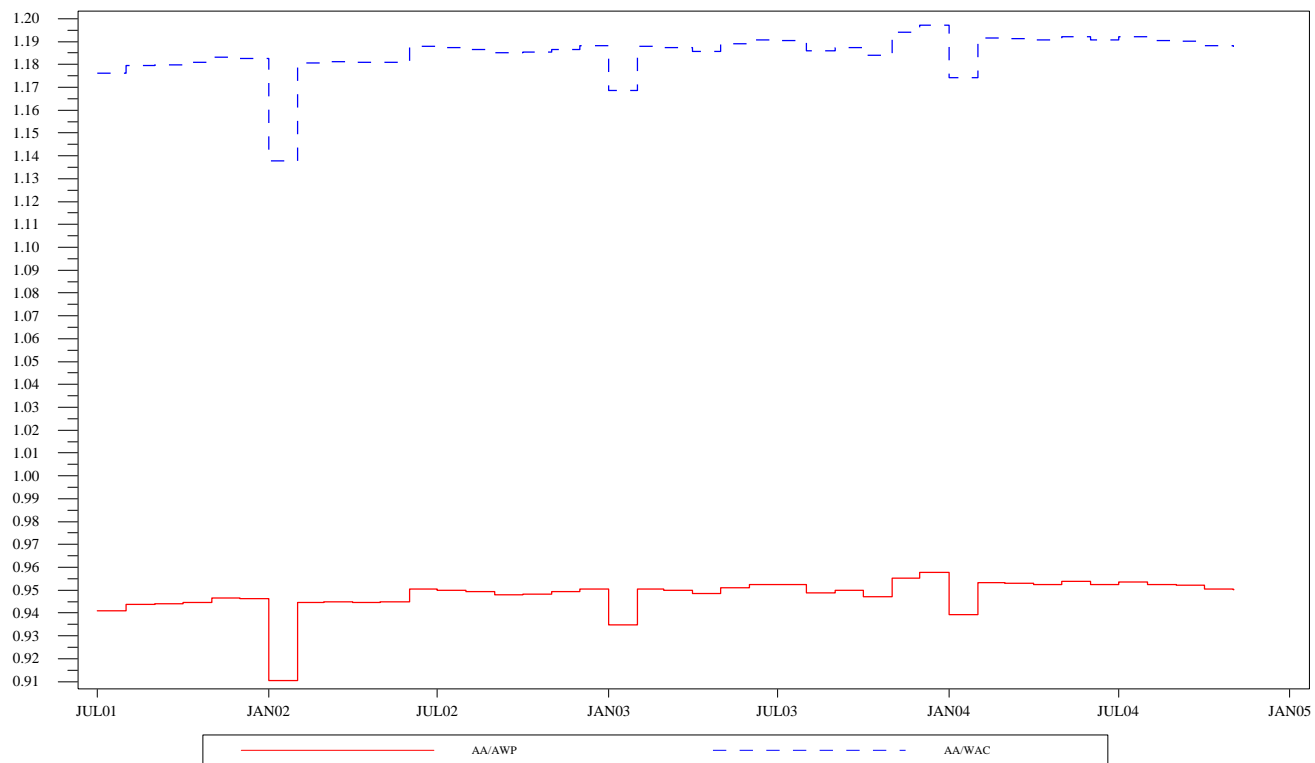
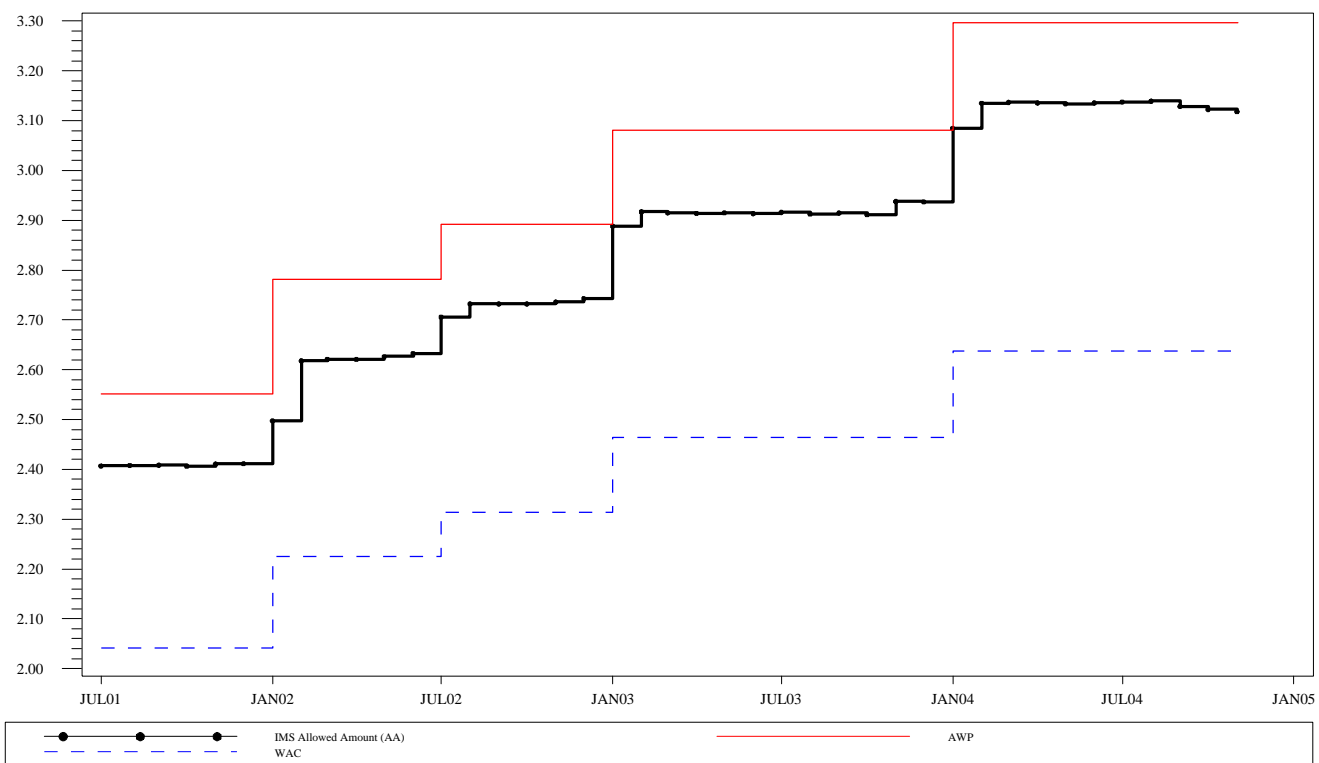
*Subject to Protective Order*

Figure F.4.k

## PRAVACHOL 20MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC

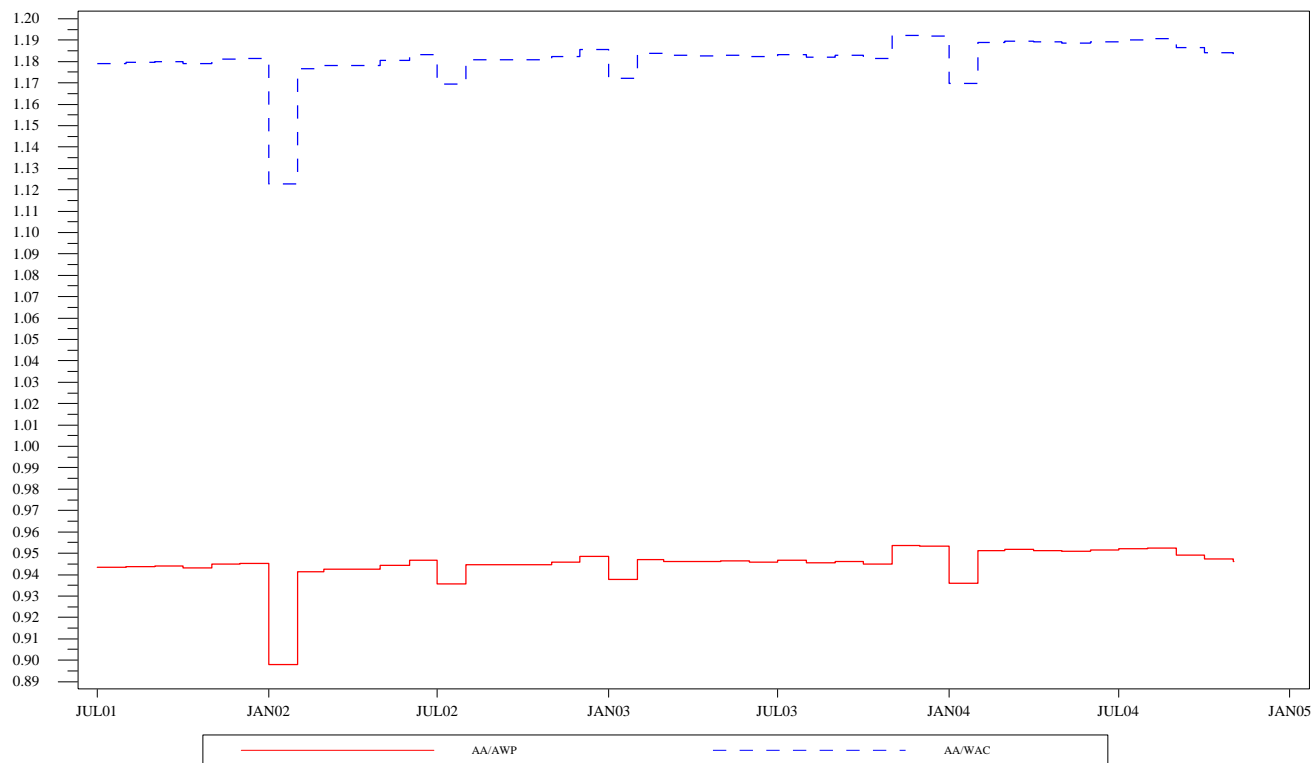
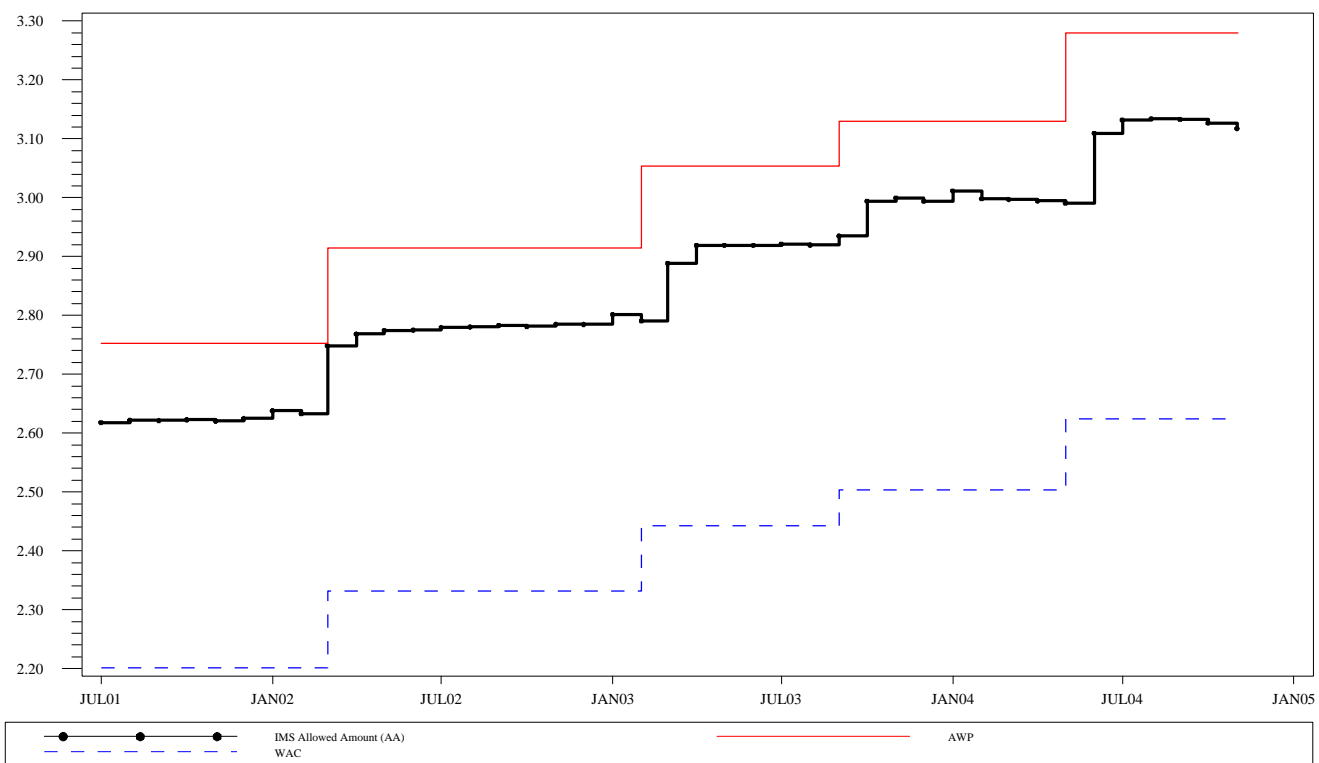
*Subject to Protective Order*

Figure F.4.1

## SINGULAIR 5MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC

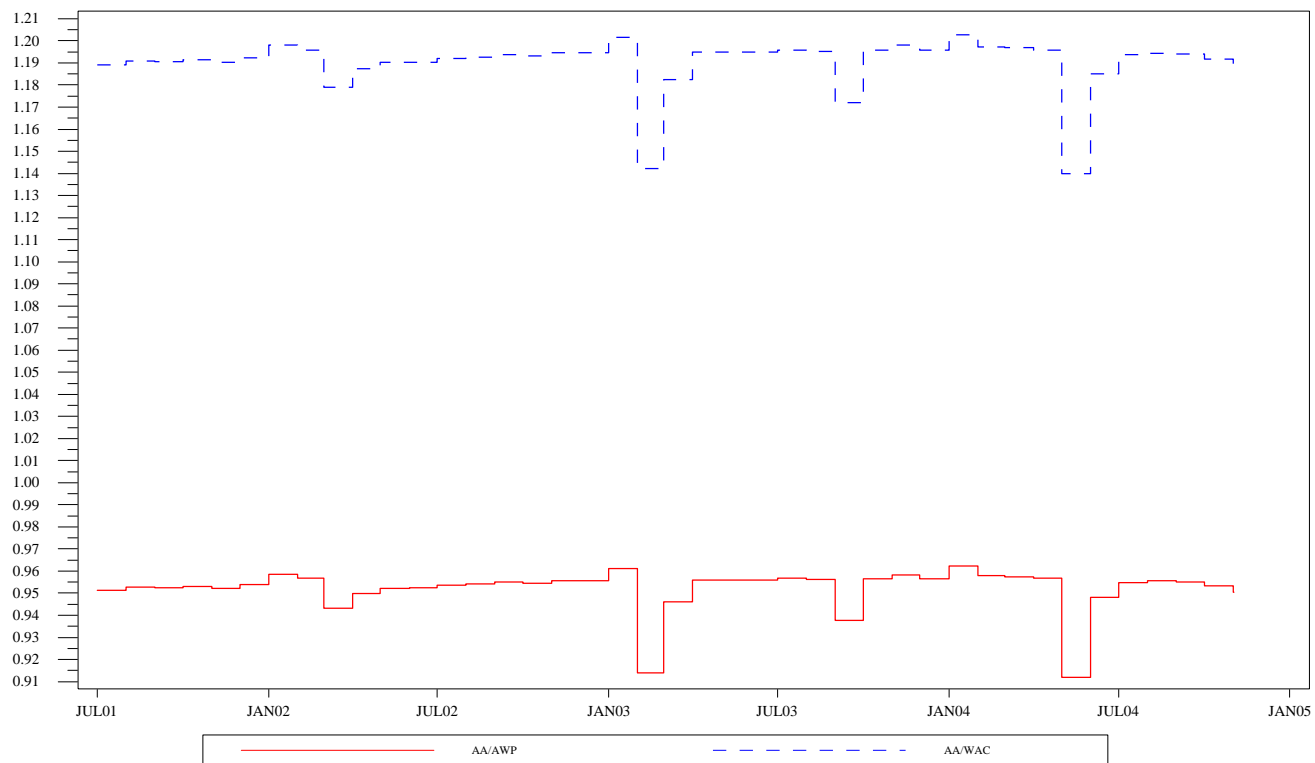
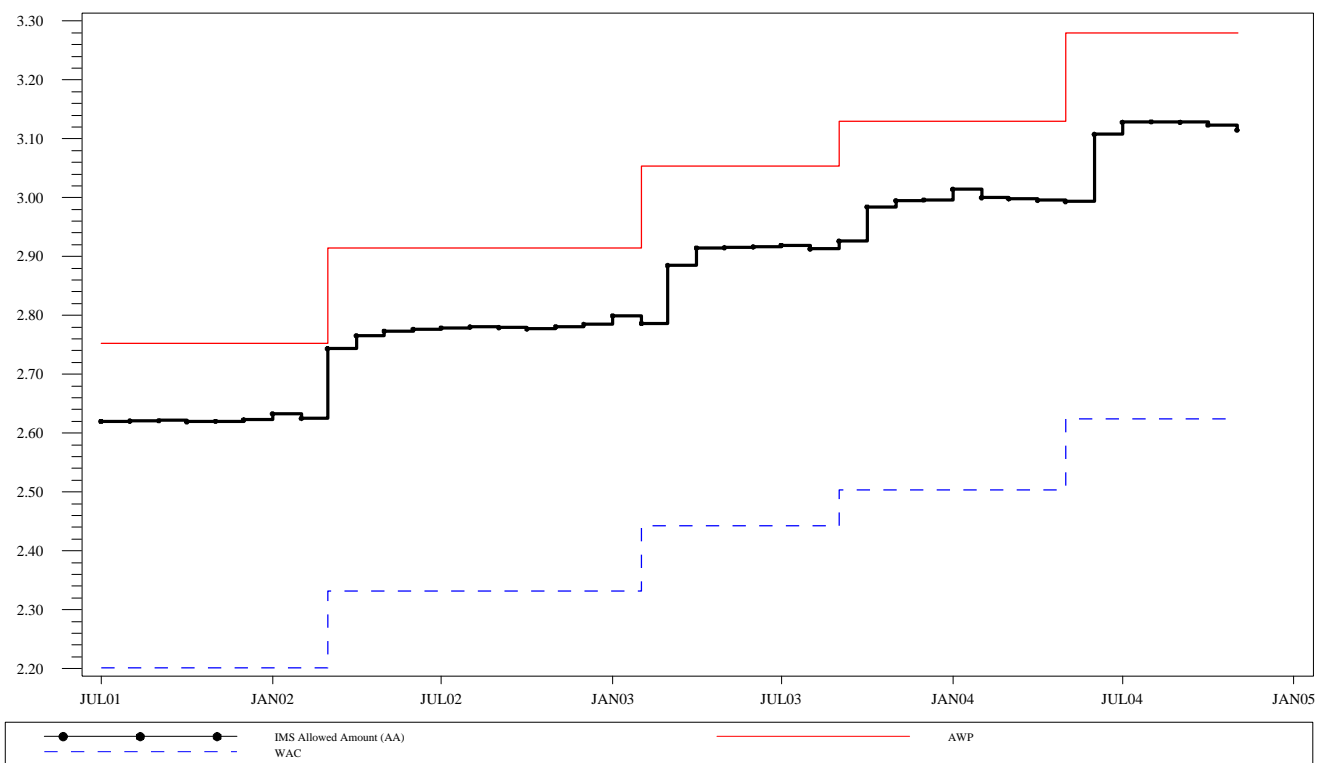
*Subject to Protective Order*

Figure F.4.m

## SINGULAIR 10MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC

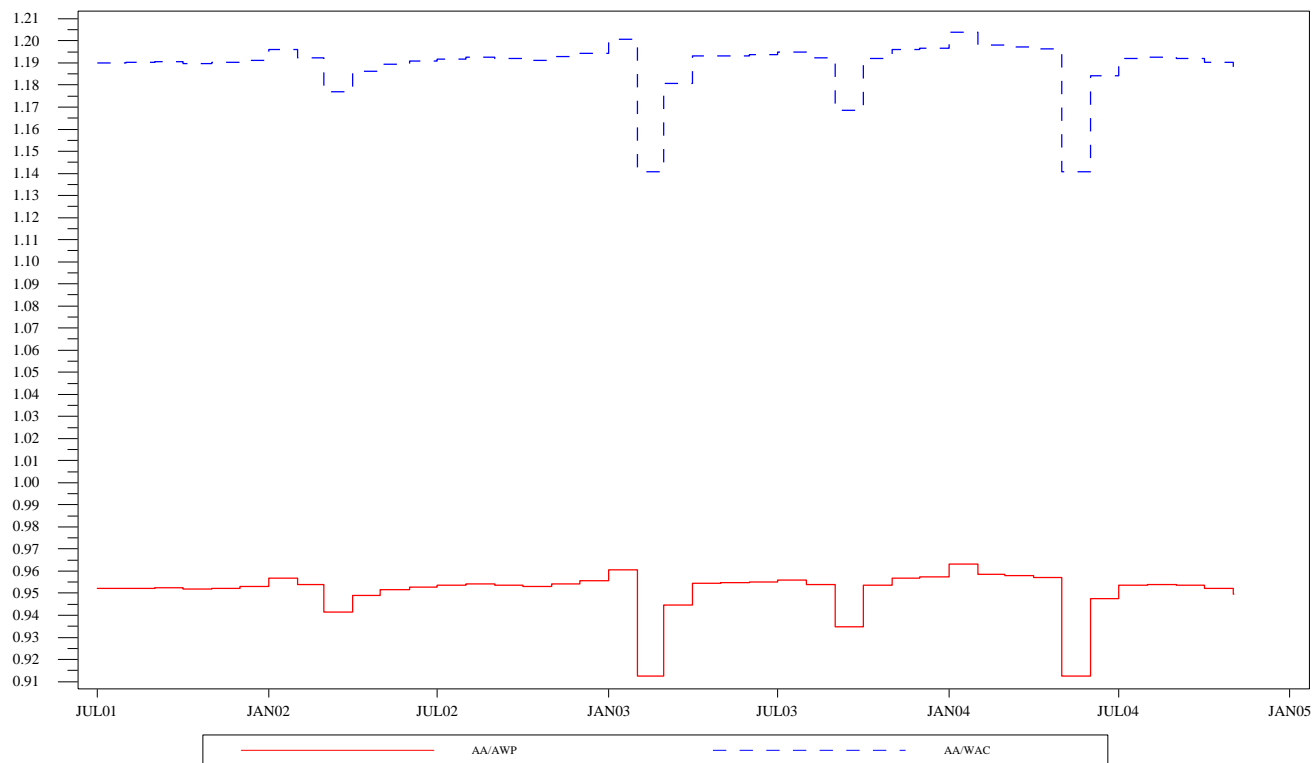
*Subject to Protective Order*

Figure F.4.n

## VIAGRA 50MG

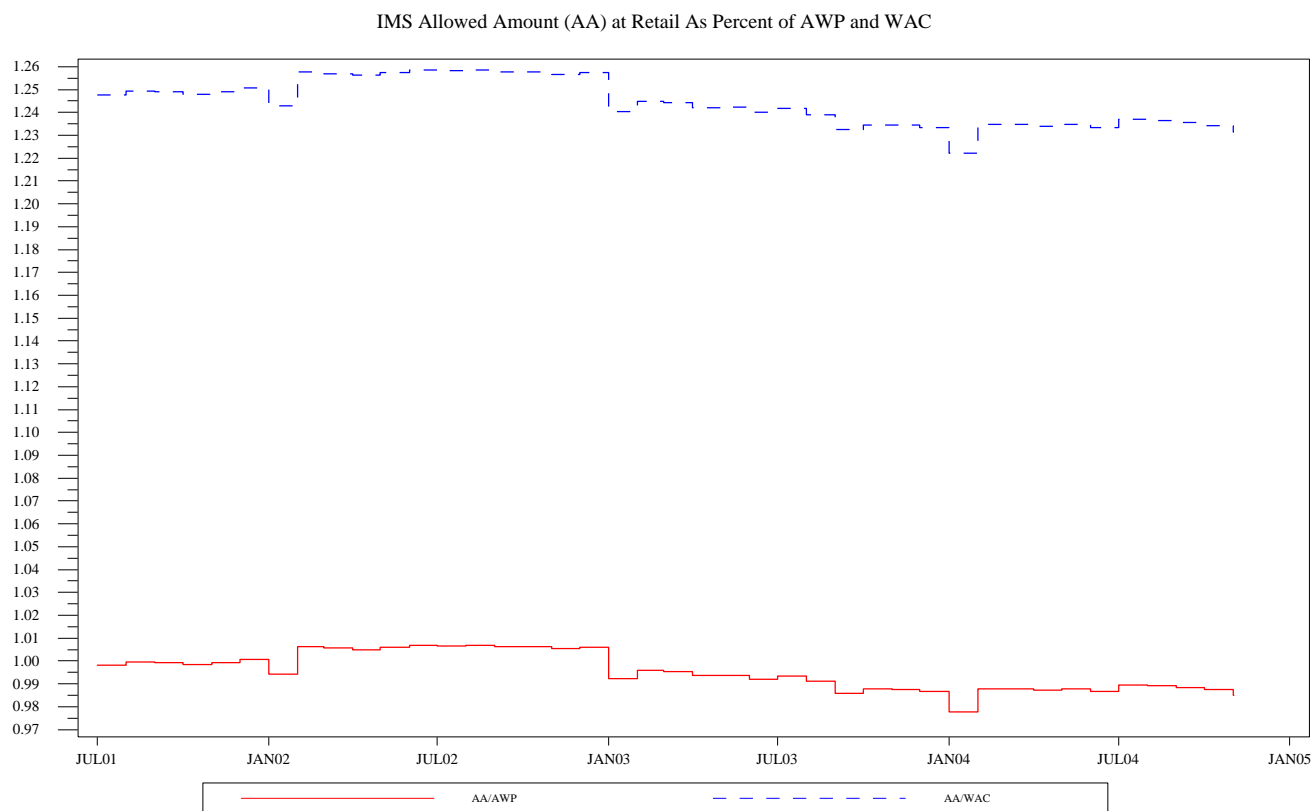
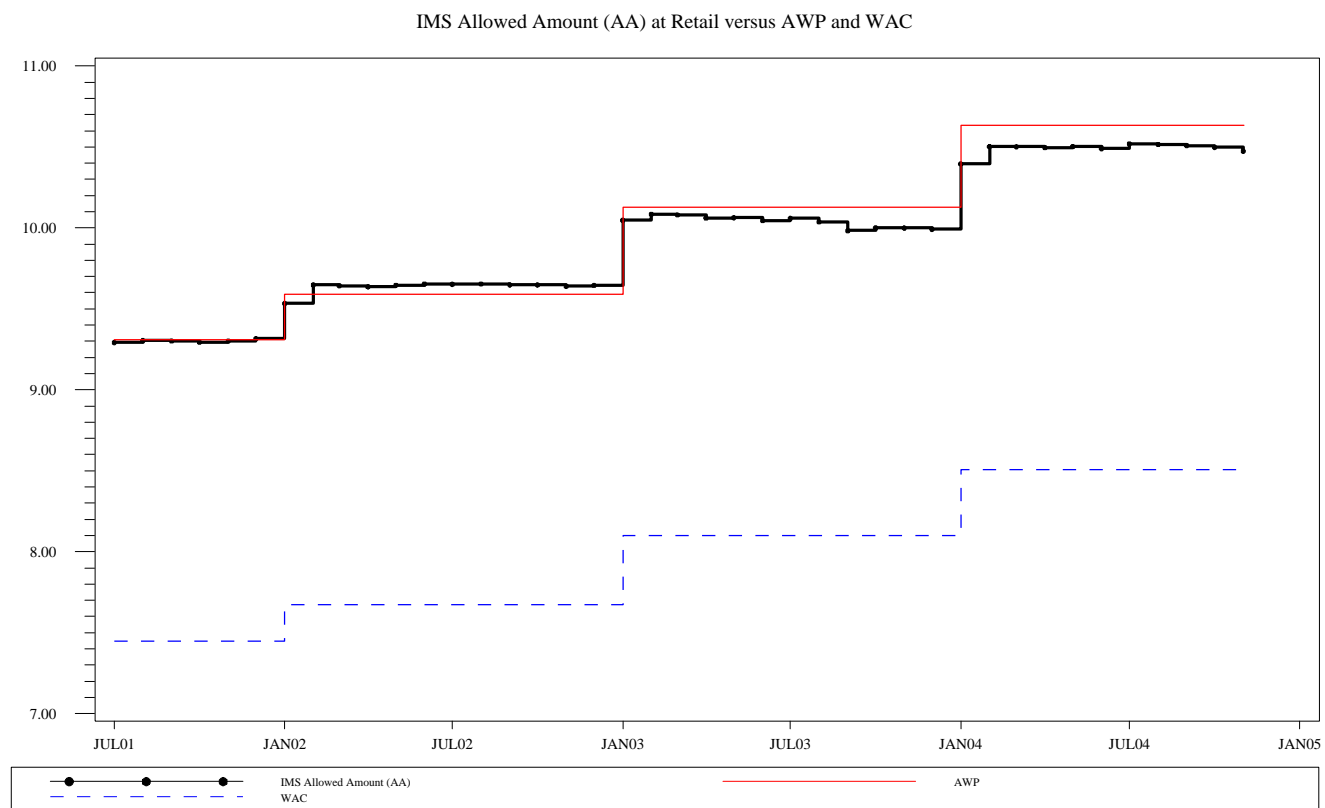
*Subject to Protective Order*

Figure F.4.o

## VIAGRA 100MG

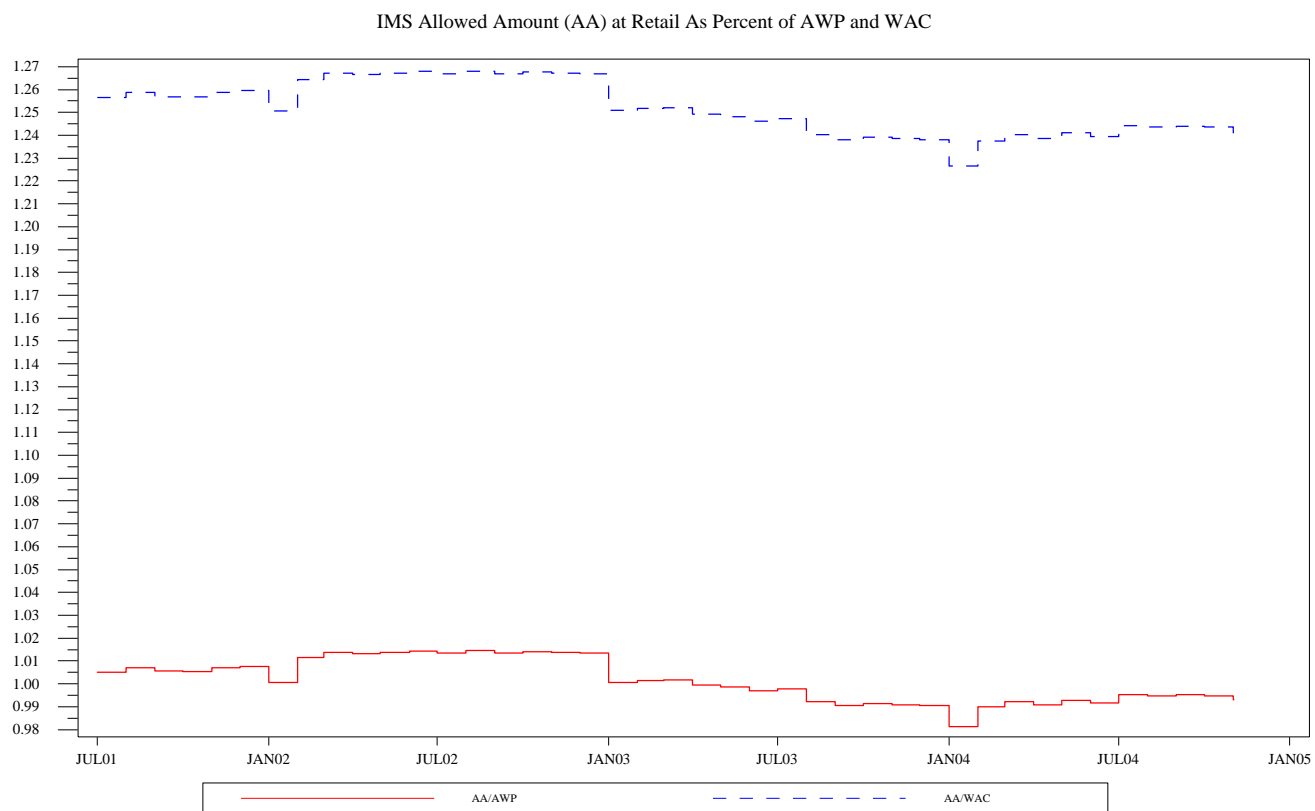
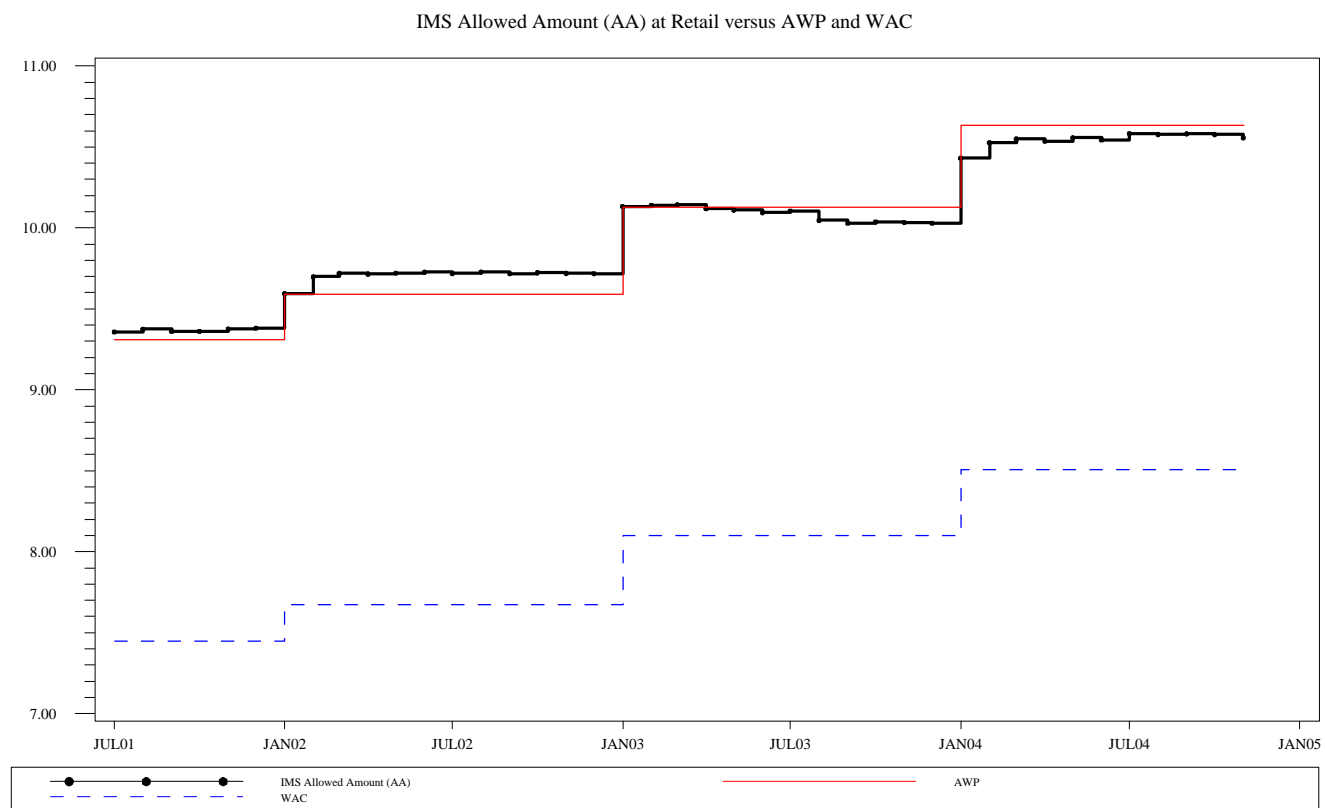
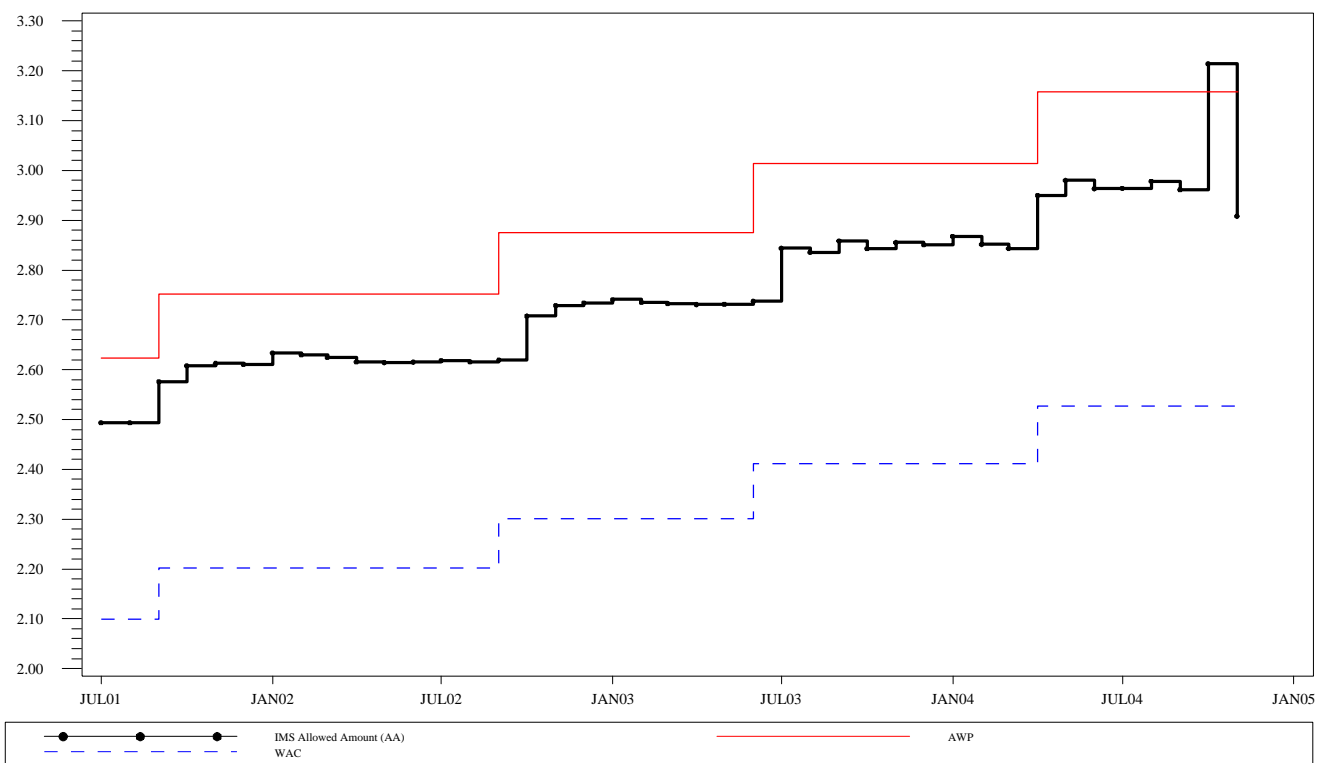
*Subject to Protective Order*



Figure F.4.p

## VIOXX 12.5MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC

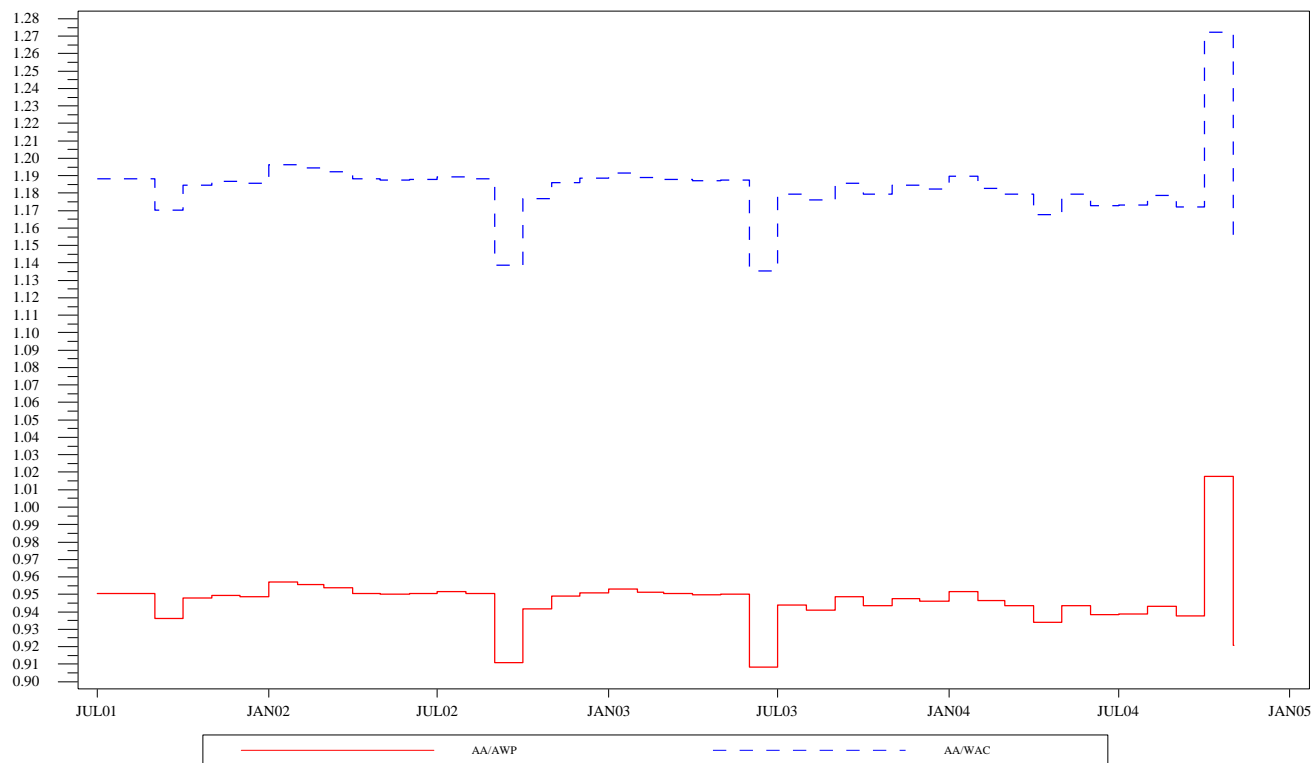
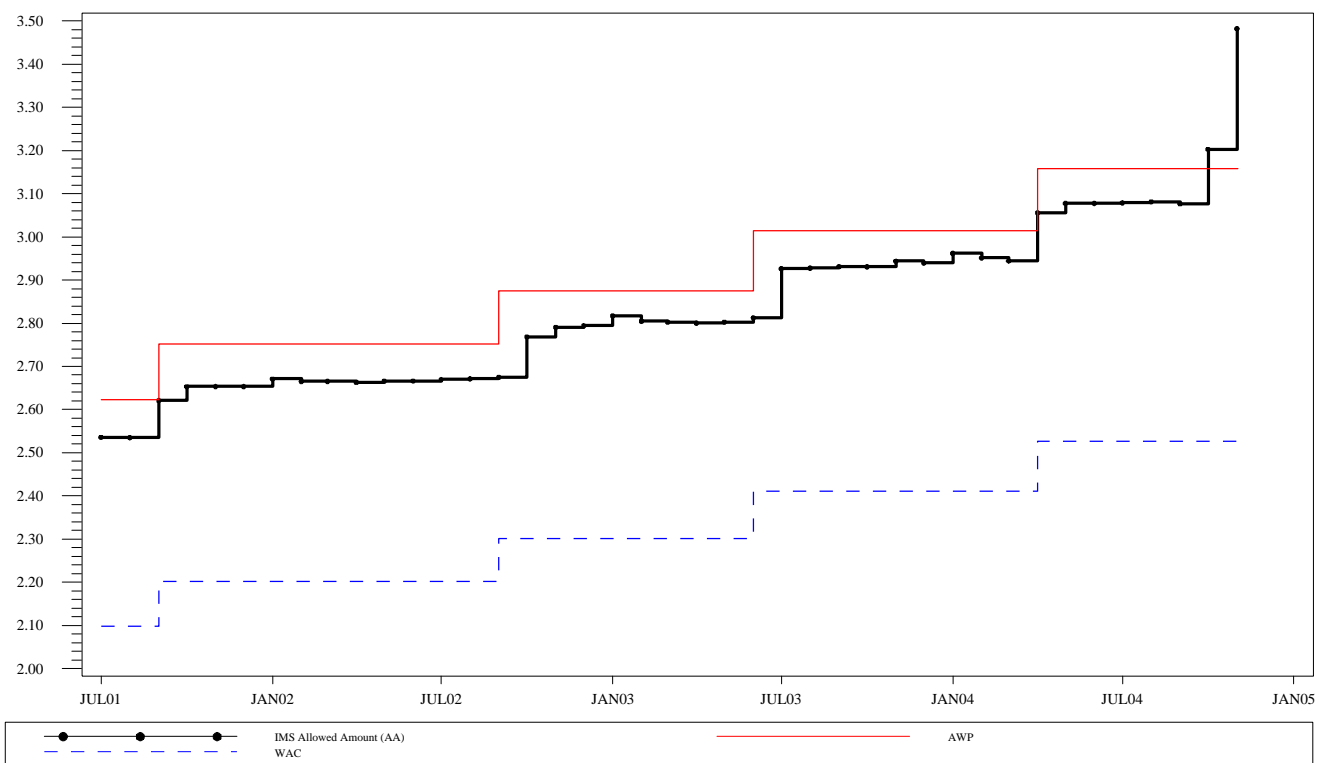
*Subject to Protective Order*

Figure F.4.q

## VIOXX 25MG

IMS Allowed Amount (AA) at Retail versus AWP and WAC



IMS Allowed Amount (AA) at Retail As Percent of AWP and WAC

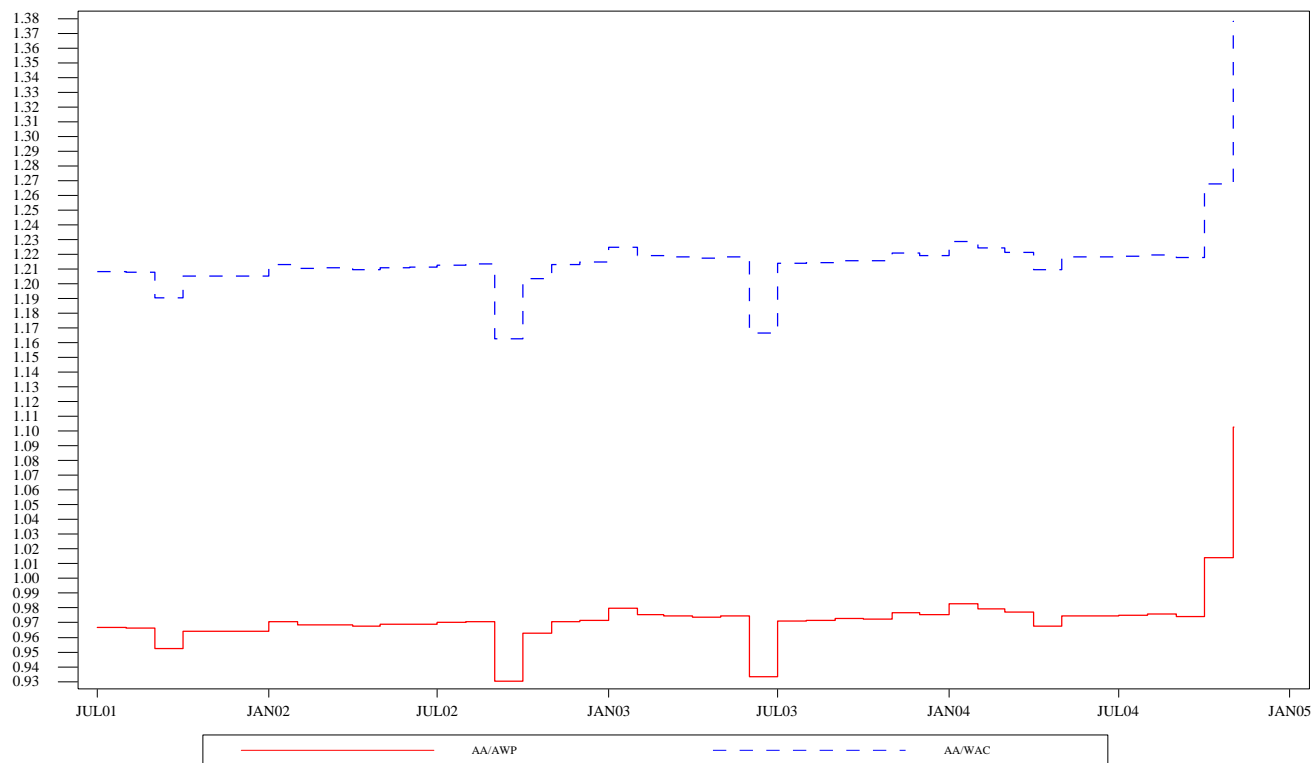
*Subject to Protective Order*

Figure F.4.r

## ZOLOFT 25MG

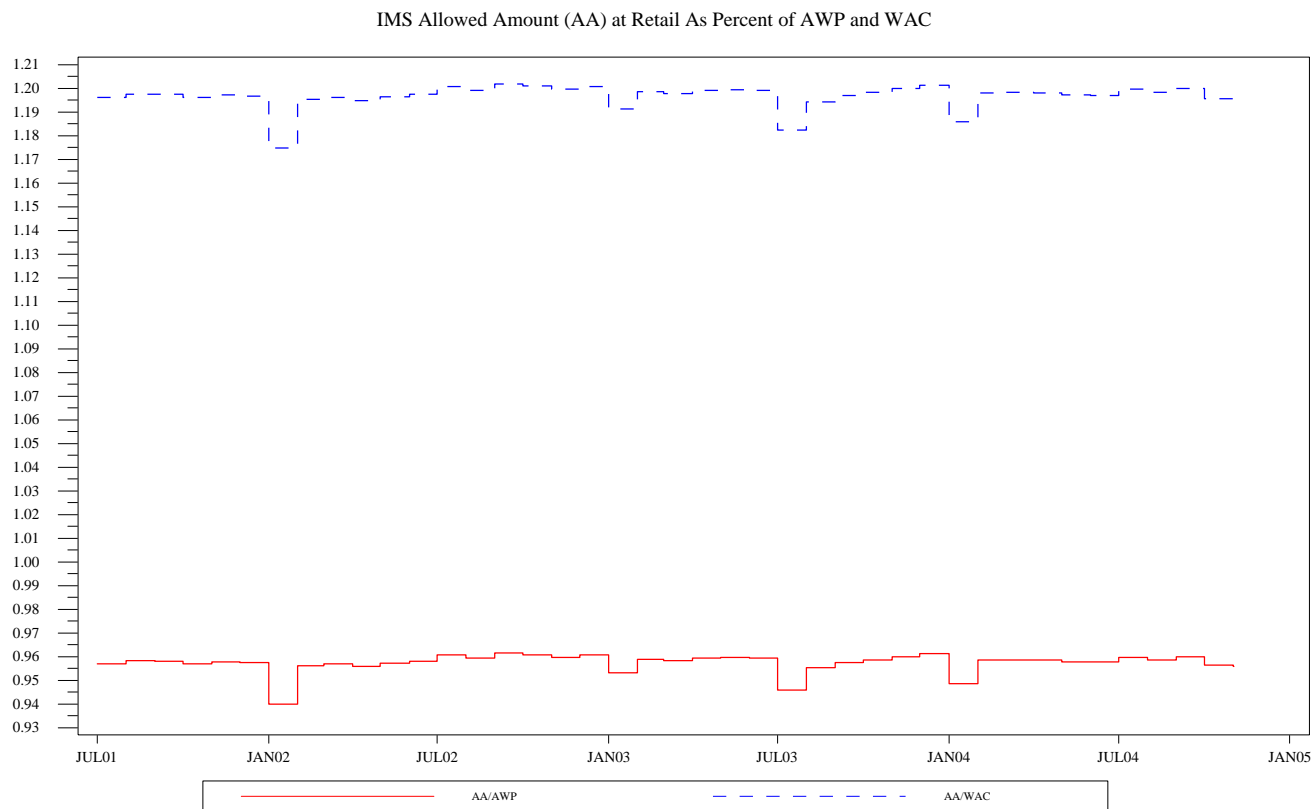
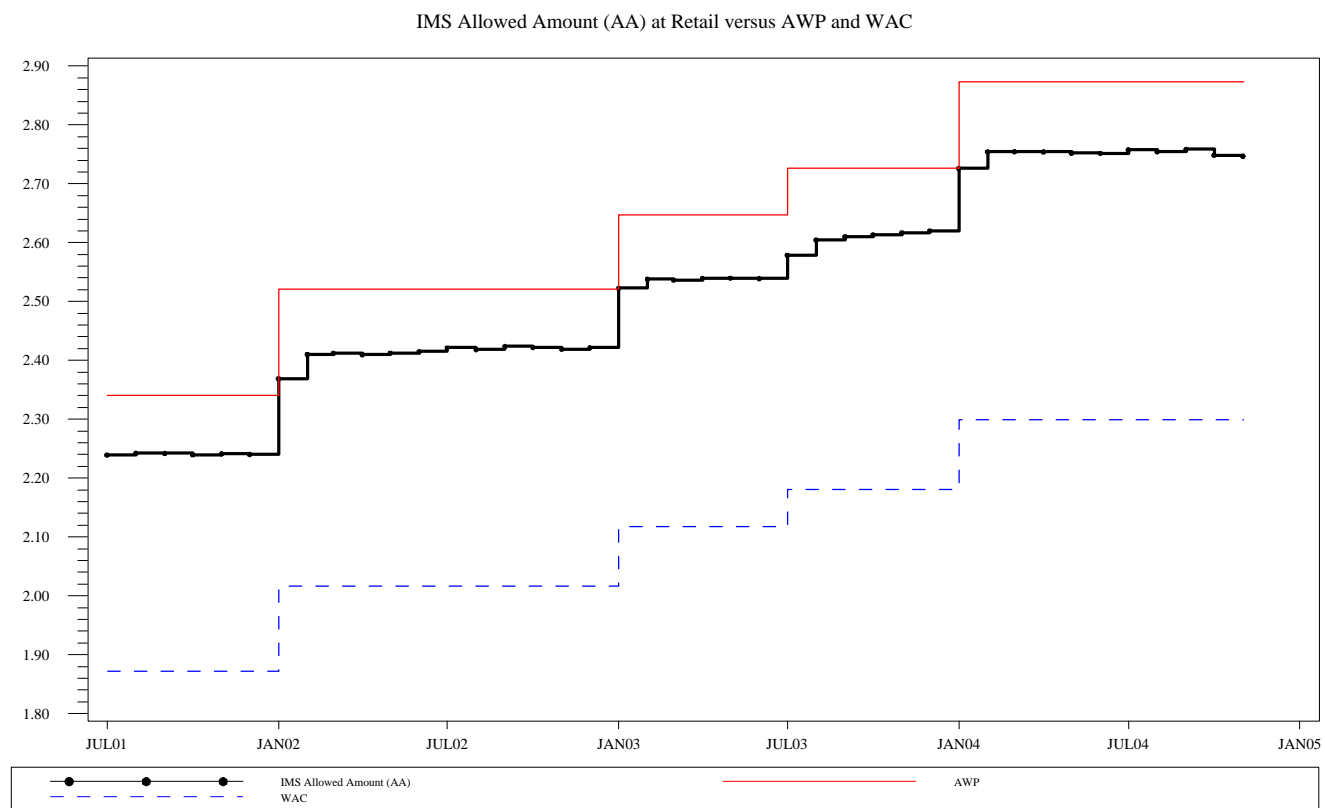
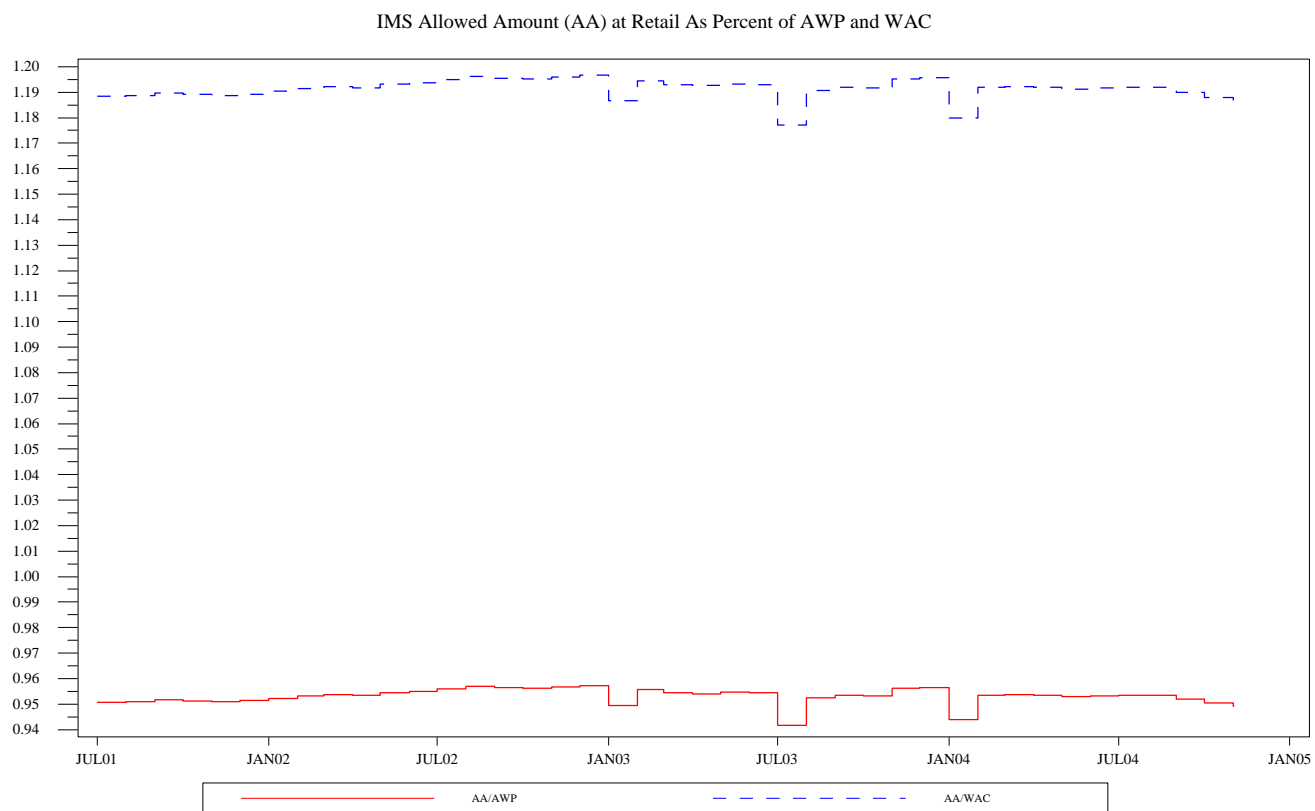
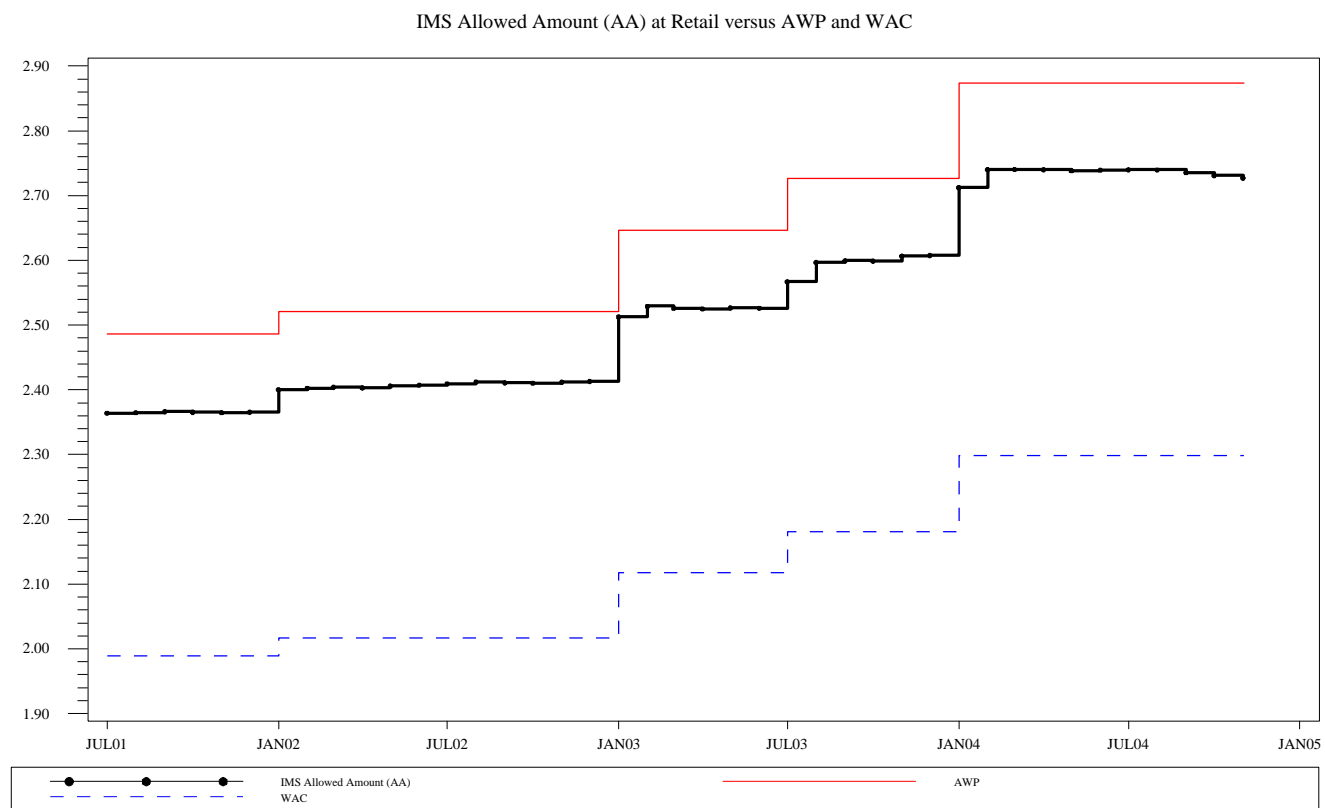
*Subject to Protective Order*

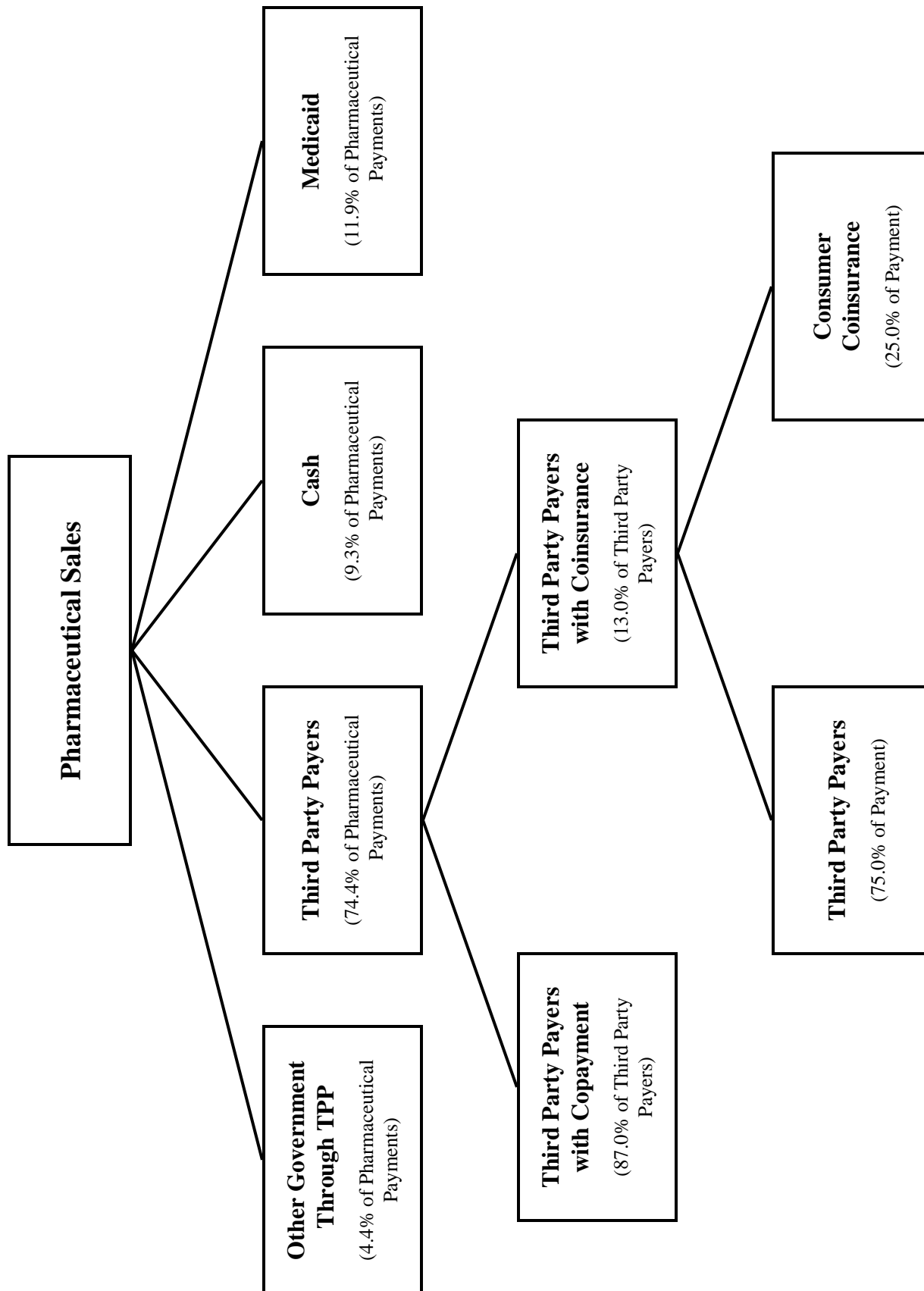
Figure F.4.s

## ZOLOFT 100MG

*Subject to Protective Order*

**ATTACHMENT F: FIGURE F.5**

**Figure F.5: Schematic of Pharmaceutical Sales and Reimbursement**



**ATTACHMENT F: EXHIBIT F.1**

**AA as Percentage of AWP** $\beta_0$  and  $\beta_1$ *Filtered Drugs and Strengths***The REG Procedure****Model: MODEL1****Dependent Variable: aapct\_awp**

<b>Number of Observations Read</b>	11398
<b>Number of Observations Used</b>	11398

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	1	0.01180	0.01180	6.01	0.0142
<b>Error</b>	11396	22.36690	0.00196		
<b>Corrected Total</b>	11397	22.37870			

<b>Root MSE</b>	0.04430	<b>R-Square</b>	0.0005
<b>Dependent Mean</b>	0.96758	<b>Adj R-Sq</b>	0.0004
<b>Coeff Var</b>	4.57866		

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
<b>Intercept</b>	Intercept	1	0.96939	0.00084535	1146.73	<.0001
<b>trend</b>	Trend	1	-0.00008599	0.00003507	-2.45	0.0142



**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure****Model: MODEL1****Dependent Variable: aapct\_awp**

<b>Number of Observations Read</b>	11398
<b>Number of Observations Used</b>	11398

**Note:** No intercept in model. R-Square is redefined.

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	556	10691	19.22902	101995	<.0001
<b>Error</b>	10842	2.04402	0.00018853		
<b>Uncorrected Total</b>	11398	10693			

<b>Root MSE</b>	0.01373	<b>R-Square</b>	0.9998
<b>Dependent Mean</b>	0.96758	<b>Adj R-Sq</b>	0.9998
<b>Coeff Var</b>	1.41906		

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d1	DD ACCOLATE 10MG	1	0.97107	0.00437	222.30	<.0001
d2	DD ACCOLATE 20MG	1	0.95963	0.00437	219.68	<.0001
d3	DD ACCUPRIL 10MG	1	1.00278	0.00437	229.55	<.0001
d4	DD ACCUPRIL 20MG	1	1.00020	0.00437	228.96	<.0001
d5	DD ACCUPRIL 40MG	1	0.99976	0.00437	228.86	<.0001
d6	DD ACCUPRIL 5MG	1	1.00828	0.00437	230.81	<.0001
d7	DD ACIPHEX 20MG	1	0.94311	0.00437	215.90	<.0001
d8	DD ACTONEL 30MG	1	0.95694	0.00437	219.06	<.0001
d9	DD ACTONEL 5MG	1	0.96348	0.00437	220.56	<.0001
d10	DD ACTOS 15MG	1	0.94869	0.00437	217.17	<.0001
d11	DD ACTOS 30MG	1	0.93566	0.00437	214.19	<.0001
d12	DD ACTOS 45MG	1	0.93275	0.00437	213.52	<.0001
d13	DD ADVAIR DISKUS 100-50	1	0.94447	0.00437	216.21	<.0001
d14	DD ADVAIR DISKUS 250-50	1	0.93680	0.00437	214.45	<.0001
d15	DD ADVAIR DISKUS 500-50	1	0.93026	0.00437	212.95	<.0001
d16	DD AGGRENOX 25-200	1	0.96160	0.00437	220.13	<.0001
d17	DD ALDARA 5%	1	0.94747	0.00437	216.89	<.0001
d18	DD ALLEGRA 180MG	1	0.95762	0.00437	219.22	<.0001
d19	DD ALLEGRA 30MG	1	1.00340	0.00437	229.70	<.0001
d20	DD ALLEGRA 60MG	1	0.95022	0.00437	217.52	<.0001
d21	DD ALLEGRA-D 12 HOUR 120-60	1	0.96406	0.00437	220.69	<.0001
d22	DD AMARYL 1MG	1	1.30536	0.00437	298.82	<.0001
d23	DD AMARYL 2MG	1	1.14411	0.00437	261.91	<.0001
d24	DD AMARYL 4MG	1	1.00458	0.00437	229.97	<.0001
d25	DD AMERGE 1MG	1	0.94169	0.00437	215.57	<.0001
d26	DD AMERGE 2.5MG	1	0.93588	0.00437	214.24	<.0001
d27	DD ARAVA 10MG	1	0.93167	0.00437	213.28	<.0001
d28	DD ARAVA 20MG	1	0.92836	0.00437	212.52	<.0001
d29	DD ARIMIDEX 1MG	1	0.93457	0.00437	213.94	<.0001
d30	DD ARTHROTEC 50MG-0	1	0.95428	0.00437	218.45	<.0001
d31	DD ARTHROTEC 75MG-0	1	0.95740	0.00437	219.17	<.0001

*Subject to Protective Order*

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d32	DD ATACAND 16MG	1	0.99082	0.00437	226.82	<.0001
d33	DD ATACAND 32MG	1	0.97428	0.00437	223.03	<.0001
d34	DD ATACAND 4MG	1	1.00400	0.00437	229.83	<.0001
d35	DD ATACAND 8MG	1	0.99994	0.00437	228.90	<.0001
d36	DD ATROVENT 0.03%	1	0.99470	0.00437	227.70	<.0001
d37	DD ATROVENT 0.06%	1	1.00359	0.00437	229.74	<.0001
d38	DD ATROVENT 18MCG	1	0.98562	0.00437	225.63	<.0001
d39	DD AVALIDE 150-12	1	0.97338	0.00437	222.82	<.0001
d40	DD AVALIDE 300-12	1	0.97354	0.00437	222.86	<.0001
d41	DD AVAPRO 150MG	1	0.98287	0.00437	225.00	<.0001
d42	DD AVAPRO 300MG	1	0.97736	0.00437	223.74	<.0001
d43	DD AVAPRO 75MG	1	0.99344	0.00437	227.42	<.0001
d44	DD BIAXIN 250MG	1	0.93084	0.00437	213.08	<.0001
d45	DD BIAXIN 500MG	1	0.93295	0.00437	213.57	<.0001
d46	DD CARDIZEM CD 120MG	1	0.98495	0.00437	225.47	<.0001
d47	DD CARDIZEM CD 180MG	1	0.93857	0.00437	214.86	<.0001
d48	DD CARDIZEM CD 240MG	1	0.94572	0.00437	216.49	<.0001
d49	DD CARDIZEM CD 300MG	1	0.93981	0.00437	215.14	<.0001
d50	DD CASODEX 50MG	1	0.92514	0.00437	211.78	<.0001
d51	DD CATAPRES TTS #1 2.5	1	1.01146	0.00437	231.54	<.0001
d52	DD CATAPRES TTS #2 5MG	1	0.97516	0.00437	223.23	<.0001
d53	DD CATAPRES TTS #3 7.5	1	0.95754	0.00437	219.20	<.0001
d54	DD CEFTIN 125MG/	1	0.99223	0.00437	227.14	<.0001
d55	DD CEFTIN 250MG	1	0.93519	0.00437	214.08	<.0001
d56	DD CEFTIN 250MG/	1	0.96115	0.00437	220.02	<.0001
d57	DD CEFTIN 500MG	1	0.91790	0.00437	210.12	<.0001
d58	DD CEFZIL 250MG	1	0.95867	0.00437	219.46	<.0001
d59	DD CEFZIL 500MG	1	0.92890	0.00437	212.64	<.0001
d60	DD CELEBREX 100MG	1	0.96664	0.00437	221.28	<.0001
d61	DD CELEBREX 200MG	1	0.95528	0.00437	218.68	<.0001
d62	DD CELEXA 10MG	1	0.97754	0.00437	223.78	<.0001

Subject to Protective Order

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d63	DD CELEXA 20MG	1	0.96457	0.00437	220.81	<.0001
d64	DD CELEXA 40MG	1	0.97084	0.00437	222.24	<.0001
d65	DD CELLCEPT 200MG/	1	0.92125	0.00437	210.89	<.0001
d66	DD CELLCEPT 250MG	1	0.94022	0.00437	215.23	<.0001
d67	DD CELLCEPT 500MG	1	0.93477	0.00437	213.99	<.0001
d68	DD CIPRO 250MG	1	0.98115	0.00437	224.60	<.0001
d69	DD CIPRO 250MG/	1	0.98475	0.00437	225.43	<.0001
d70	DD CIPRO 500MG	1	0.96270	0.00437	220.38	<.0001
d71	DD CIPRO 500MG/	1	0.96802	0.00437	221.60	<.0001
d72	DD CIPRO 750MG	1	0.96284	0.00437	220.41	<.0001
d73	DD CLARITIN REDITABS 10MG	1	0.95681	0.00437	219.03	<.0001
d74	DD CLARITIN-D 12HR 5MG	1	0.96528	0.00437	220.97	<.0001
d75	DD CLARITIN-D 24HR 240-10	1	0.96214	0.00437	220.25	<.0001
d76	DD CLOZARIL 100MG	1	0.96475	0.00437	220.85	<.0001
d77	DD CLOZARIL 25MG	1	1.02734	0.00437	235.18	<.0001
d78	DD COMBIVENT 18-103	1	0.99269	0.00437	227.24	<.0001
d79	DD COMBIVIR 300MG-	1	0.93318	0.00437	213.62	<.0001
d80	DD COUMADIN 10MG	1	1.00746	0.00437	230.62	<.0001
d81	DD COUMADIN 1MG	1	1.01605	0.00437	232.59	<.0001
d82	DD COUMADIN 2.5MG	1	1.02132	0.00437	233.80	<.0001
d83	DD COUMADIN 2MG	1	1.01278	0.00437	231.84	<.0001
d84	DD COUMADIN 3MG	1	1.05854	0.00437	242.32	<.0001
d85	DD COUMADIN 4MG	1	1.04795	0.00437	239.89	<.0001
d86	DD COUMADIN 5MG	1	1.01381	0.00437	232.08	<.0001
d87	DD COUMADIN 6MG	1	1.02107	0.00437	233.74	<.0001
d88	DD COUMADIN 7.5MG	1	1.01471	0.00437	232.29	<.0001
d89	DD COVERA-HS 180MG	1	0.97267	0.00437	222.66	<.0001
d90	DD COVERA-HS 240MG	1	0.95563	0.00437	218.76	<.0001
d91	DD DEPAKOTE 125MG	1	0.95584	0.00437	218.81	<.0001
d92	DD DEPAKOTE 250MG	1	0.92449	0.00437	211.63	<.0001
d93	DD DEPAKOTE 500MG	1	0.91513	0.00437	209.49	<.0001

*Subject to Protective Order*

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d94	DD DILANTIN 100MG	1	1.02752	0.00437	235.22	<.0001
d95	DD DILANTIN 30MG	1	1.21905	0.00437	279.06	<.0001
d96	DD DILANTIN 50MG	1	1.15477	0.00437	264.35	<.0001
d97	DD DOVONEX 0.01%	1	0.96695	0.00437	221.35	<.0001
d98	DD DURAGESIC 100MCG	1	0.94481	0.00437	216.28	<.0001
d99	DD DURAGESIC 25MCG	1	0.97364	0.00437	222.88	<.0001
d100	DD DURAGESIC 50MCG	1	0.95707	0.00437	219.09	<.0001
d101	DD DURAGESIC 75MCG	1	0.94853	0.00437	217.14	<.0001
d102	DD ELOCON 0.10%	1	1.14763	0.00437	262.71	<.0001
d103	DD ENBREL 25MG	1	0.92512	0.00437	211.78	<.0001
d104	DD EPIVIR 10MG/M	1	0.96406	0.00437	220.69	<.0001
d105	DD EPIVIR 150MG	1	0.94320	0.00437	215.92	<.0001
d106	DD EVISTA 60MG	1	0.95130	0.00437	217.77	<.0001
d107	DD EXELON 1.5MG	1	0.96274	0.00437	220.39	<.0001
d108	DD EXELON 2MG/ML	1	0.93926	0.00437	215.01	<.0001
d109	DD EXELON 3MG	1	0.95984	0.00437	219.73	<.0001
d110	DD EXELON 4.5MG	1	0.95610	0.00437	218.87	<.0001
d111	DD EXELON 6MG	1	0.95388	0.00437	218.36	<.0001
d112	DD FLONASE 0.05%	1	0.96162	0.00437	220.13	<.0001
d113	DD FLOVENT 110MCG	1	0.96064	0.00437	219.91	<.0001
d114	DD FLOVENT 220MCG	1	0.94339	0.00437	215.96	<.0001
d115	DD FLOVENT 44MCG	1	0.97811	0.00437	223.91	<.0001
d116	DD GLEEVEC 100MG	1	0.91189	0.00437	208.75	<.0001
d117	DD GLUCOPHAGE 1000MG	1	0.92676	0.00437	212.15	<.0001
d118	DD GLUCOPHAGE 500MG	1	0.96465	0.00437	220.83	<.0001
d119	DD GLUCOPHAGE 850MG	1	0.94150	0.00437	215.53	<.0001
d120	DD GLUCOVANCE 1.25-2	1	1.01923	0.00437	233.32	<.0001
d121	DD GLUCOVANCE 2.5-50	1	0.98210	0.00437	224.82	<.0001
d122	DD GLUCOVANCE 5.0-50	1	0.97385	0.00437	222.93	<.0001
d123	DD IMITREX 100MG	1	0.94884	0.00437	217.21	<.0001
d124	DD IMITREX 20MG	1	0.93404	0.00437	213.82	<.0001

*Subject to Protective Order*

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d125	DD IMITREX 25MG	1	0.92815	0.00437	212.47	<.0001
d126	DD IMITREX 50MG	1	0.93894	0.00437	214.94	<.0001
d127	DD IMITREX 5MG	1	0.93940	0.00437	215.05	<.0001
d128	DD LAMICTAL 100MG	1	0.93459	0.00437	213.95	<.0001
d129	DD LAMICTAL 150MG	1	0.93705	0.00437	214.51	<.0001
d130	DD LAMICTAL 200MG	1	0.93998	0.00437	215.18	<.0001
d131	DD LAMICTAL 25MG	1	0.92947	0.00437	212.77	<.0001
d132	DD LAMICTAL 5MG	1	0.93242	0.00437	213.45	<.0001
d133	DD LAMISIL 1%	1	0.91441	0.00437	209.33	<.0001
d134	DD LAMISIL 250MG	1	0.95188	0.00437	217.90	<.0001
d135	DD LANOXIN 0.05MG	1	1.03421	0.00437	236.75	<.0001
d136	DD LESCOL 20MG	1	0.97329	0.00437	222.80	<.0001
d137	DD LESCOL 40MG	1	0.97433	0.00437	223.04	<.0001
d138	DD LESCOL XL 80MG	1	0.96684	0.00437	221.33	<.0001
d139	DD LEVAQUIN 250MG	1	0.98102	0.00437	224.57	<.0001
d140	DD LEVAQUIN 500MG	1	0.96129	0.00437	220.06	<.0001
d141	DD LEVAQUIN 750MG	1	0.89629	0.00437	205.18	<.0001
d142	DD LIPITOR 10MG	1	0.95048	0.00437	217.58	<.0001
d143	DD LIPITOR 20MG	1	0.93672	0.00437	214.43	<.0001
d144	DD LIPITOR 40MG	1	0.93608	0.00437	214.28	<.0001
d145	DD LIPITOR 80MG	1	0.93839	0.00437	214.81	<.0001
d146	DD LOTENSIN 10MG	1	1.01962	0.00437	233.41	<.0001
d147	DD LOTENSIN 20MG	1	1.01308	0.00437	231.91	<.0001
d148	DD LOTENSIN 40MG	1	1.01898	0.00437	233.26	<.0001
d149	DD LOTENSIN 5MG	1	1.02474	0.00437	234.58	<.0001
d150	DD LOTREL 2.5-10	1	0.97176	0.00437	222.45	<.0001
d151	DD LOTREL 5-10MG	1	0.96912	0.00437	221.85	<.0001
d152	DD LOTREL 5-20MG	1	0.96540	0.00437	221.00	<.0001
d153	DD MACROBID 100MG	1	1.05775	0.00437	242.14	<.0001
d154	DD MOBIC 15MG	1	0.98622	0.00437	225.76	<.0001
d155	DD MOBIC 7.5MG	1	0.97321	0.00437	222.79	<.0001

Subject to Protective Order

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d156	DD MONOPRIL 10MG	1	1.01773	0.00437	232.98	<.0001
d157	DD MONOPRIL 20MG	1	1.00886	0.00437	230.95	<.0001
d158	DD MONOPRIL 40MG	1	1.01090	0.00437	231.41	<.0001
d159	DD NASONEX 50 MCG	1	0.96725	0.00437	221.42	<.0001
d160	DD NEURONTIN 100MG	1	1.00308	0.00437	229.62	<.0001
d161	DD NEURONTIN 300MG	1	0.95540	0.00437	218.71	<.0001
d162	DD NEURONTIN 400MG	1	0.94845	0.00437	217.12	<.0001
d163	DD NEXIUM 20MG	1	0.94595	0.00437	216.54	<.0001
d164	DD NEXIUM 40MG	1	0.94414	0.00437	216.13	<.0001
d165	DD ORTHO-CYCLEN-28 0.25-0	1	0.98647	0.00437	225.82	<.0001
d166	DD ORTHO-NOV 7/7/7 28 N/A	1	0.98454	0.00437	225.38	<.0001
d167	DD ORTHO-TRI-CY-28 N/A	1	0.99623	0.00437	228.06	<.0001
d168	DD PLAVIX 75MG	1	0.94760	0.00437	216.92	<.0001
d169	DD PLENDIL 10MG	1	0.96017	0.00437	219.80	<.0001
d170	DD PLENDIL 2.5MG	1	1.00586	0.00437	230.26	<.0001
d171	DD PLENDIL 5MG	1	0.99879	0.00437	228.64	<.0001
d172	DD PREVACID 15MG	1	0.94172	0.00437	215.58	<.0001
d173	DD PREVACID 30MG	1	0.94251	0.00437	215.76	<.0001
d174	DD PRILOSEC 10MG	1	0.96347	0.00437	220.56	<.0001
d175	DD PRILOSEC 20MG	1	0.93798	0.00437	214.72	<.0001
d176	DD PRILOSEC 40MG	1	0.92513	0.00437	211.78	<.0001
d177	DD PRINIVIL 10MG	1	1.01162	0.00437	231.58	<.0001
d178	DD PRINIVIL 2.5MG	1	1.07731	0.00437	246.61	<.0001
d179	DD PRINIVIL 20MG	1	1.00491	0.00437	230.04	<.0001
d180	DD PRINIVIL 40MG	1	0.97946	0.00437	224.22	<.0001
d181	DD PRINIVIL 5MG	1	1.01820	0.00437	233.08	<.0001
d182	DD PROTONIX 40MG	1	0.93033	0.00437	212.97	<.0001
d183	DD PROZAC 10MG	1	0.93945	0.00437	215.06	<.0001
d184	DD PROZAC 20MG	1	0.93840	0.00437	214.82	<.0001
d185	DD PROZAC 20MG/5	1	0.93562	0.00437	214.18	<.0001
d186	DD PROZAC 40MG	1	0.92652	0.00437	212.10	<.0001

Subject to Protective Order



**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d187	DD PROZAC WEEKLY 90MG	1	0.96276	0.00437	220.39	<.0001
d188	DD PULMICORT TURBUHAL 200MCG	1	0.93095	0.00437	213.11	<.0001
d189	DD RAZADYNE 12MG	1	0.95287	0.00437	218.13	<.0001
d190	DD RAZADYNE 4MG	1	0.96570	0.00437	221.07	<.0001
d191	DD RAZADYNE 8MG	1	0.96223	0.00437	220.27	<.0001
d192	DD REMERON 15MG	1	0.97634	0.00437	223.50	<.0001
d193	DD REMERON 30MG	1	0.97083	0.00437	222.24	<.0001
d194	DD REMERON 45MG	1	0.98462	0.00437	225.40	<.0001
d195	DD RISPERDAL 0.25MG	1	0.95423	0.00437	218.44	<.0001
d196	DD RISPERDAL 0.5MG	1	0.95715	0.00437	219.11	<.0001
d197	DD RISPERDAL 1MG	1	0.95582	0.00437	218.81	<.0001
d198	DD RISPERDAL 1MG/ML	1	0.94609	0.00437	216.58	<.0001
d199	DD RISPERDAL 2MG	1	0.94772	0.00437	216.95	<.0001
d200	DD RISPERDAL 3MG	1	0.94606	0.00437	216.57	<.0001
d201	DD RISPERDAL 4MG	1	0.94354	0.00437	215.99	<.0001
d202	DD SEREVENT 25MCG	1	0.94237	0.00437	215.72	<.0001
d203	DD SEREVENT DISKUS 50MCG	1	0.95027	0.00437	217.53	<.0001
d204	DD SEROQUEL 100MG	1	0.95515	0.00437	218.65	<.0001
d205	DD SEROQUEL 200MG	1	0.94700	0.00437	216.79	<.0001
d206	DD SEROQUEL 25MG	1	0.97106	0.00437	222.29	<.0001
d207	DD SEROQUEL 300MG	1	0.95650	0.00437	218.96	<.0001
d208	DD SERZONE 100MG	1	0.95567	0.00437	218.77	<.0001
d209	DD SERZONE 150MG	1	0.95735	0.00437	219.15	<.0001
d210	DD SERZONE 200MG	1	0.96188	0.00437	220.19	<.0001
d211	DD SERZONE 250MG	1	0.96540	0.00437	221.00	<.0001
d212	DD SERZONE 50MG	1	0.96940	0.00437	221.91	<.0001
d213	DD SPORANOX 100MG	1	0.95490	0.00437	218.59	<.0001
d214	DD SPORANOX 10MG/M	1	0.95462	0.00437	218.53	<.0001
d215	DD STARLIX 120MG	1	0.96390	0.00437	220.65	<.0001
d216	DD STARLIX 60MG	1	0.97028	0.00437	222.11	<.0001
d217	DD SUSTIVA 100MG	1	0.95730	0.00437	219.14	<.0001

*Subject to Protective Order*



**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d218	DD SUSTIVA 200MG	1	0.93774	0.00437	214.67	<.0001
d219	DD TEGRETOL XR 100MG	1	1.07395	0.00437	245.85	<.0001
d220	DD TEGRETOL XR 200MG	1	0.99206	0.00437	227.10	<.0001
d221	DD TEGRETOL XR 400MG	1	0.97559	0.00437	223.33	<.0001
d222	DD TEMODAR 100MG	1	0.92210	0.00437	211.08	<.0001
d223	DD TEMODAR 20MG	1	0.92622	0.00437	212.03	<.0001
d224	DD TEMODAR 250MG	1	0.91847	0.00437	210.25	<.0001
d225	DD TEMODAR 5MG	1	0.94669	0.00437	216.72	<.0001
d226	DD TEQUIN 200MG	1	0.98581	0.00437	225.67	<.0001
d227	DD TEQUIN 400MG	1	0.96362	0.00437	220.59	<.0001
d228	DD TOPAMAX 100MG	1	0.94152	0.00437	215.53	<.0001
d229	DD TOPAMAX 15MG	1	0.95262	0.00437	218.07	<.0001
d230	DD TOPAMAX 200MG	1	0.94128	0.00437	215.47	<.0001
d231	DD TOPAMAX 25MG	1	0.95681	0.00437	219.03	<.0001
d232	DD TOPROL-XL 100MG	1	1.01398	0.00437	232.12	<.0001
d233	DD TOPROL-XL 25MG	1	1.09473	0.00437	250.60	<.0001
d234	DD TOPROL-XL 50MG	1	1.08165	0.00437	247.61	<.0001
d235	DD TRILEPTAL 150MG	1	0.99148	0.00437	226.97	<.0001
d236	DD TRILEPTAL 300MG	1	0.96124	0.00437	220.05	<.0001
d237	DD TRILEPTAL 300MG/	1	0.99711	0.00437	228.26	<.0001
d238	DD TRILEPTAL 600MG	1	0.95917	0.00437	219.57	<.0001
d239	DD TRIZIVIR 300-15	1	0.93615	0.00437	214.30	<.0001
d240	DD ULTRAM 50MG	1	1.01072	0.00437	231.37	<.0001
d241	DD VALTREX 500MG	1	0.90349	0.00437	206.83	<.0001
d242	DD VIDEX EC 200MG	1	0.97677	0.00437	223.60	<.0001
d243	DD VIDEX EC 250MG	1	0.96347	0.00437	220.56	<.0001
d244	DD VIDEX EC 400MG	1	0.94448	0.00437	216.21	<.0001
d245	DD VIRACEPT 250MG	1	0.93666	0.00437	214.42	<.0001
d246	DD VIRACEPT 50MG/1	1	0.94812	0.00437	217.04	<.0001
d247	DD VIRAMUNE 200MG	1	0.94261	0.00437	215.78	<.0001
d248	DD VIRAMUNE 50MG/5	1	0.95256	0.00437	218.06	<.0001

Subject to Protective Order

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d249	DD WELLBUTRIN SR 100MG	1	0.94764	0.00437	216.93	<.0001
d250	DD WELLBUTRIN SR 150MG	1	0.95646	0.00437	218.95	<.0001
d251	DD XELODA 150MG	1	0.92542	0.00437	211.85	<.0001
d252	DD XELODA 500MG	1	0.91302	0.00437	209.01	<.0001
d253	DD XENICAL 120MG	1	1.02169	0.00437	233.88	<.0001
d254	DD ZANTAC 150MG	1	0.94559	0.00437	216.46	<.0001
d255	DD ZANTAC 15MG/M	1	0.99334	0.00437	227.39	<.0001
d256	DD ZANTAC 300MG	1	0.93741	0.00437	214.59	<.0001
d257	DD ZESTORETIC 10-12.	1	0.99245	0.00437	227.19	<.0001
d258	DD ZESTORETIC 20-12.	1	0.97858	0.00437	224.01	<.0001
d259	DD ZESTORETIC 20-25M	1	0.98158	0.00437	224.70	<.0001
d260	DD ZESTRIL 10MG	1	0.99426	0.00437	227.60	<.0001
d261	DD ZESTRIL 2.5MG	1	1.06544	0.00437	243.90	<.0001
d262	DD ZESTRIL 20MG	1	0.98528	0.00437	225.55	<.0001
d263	DD ZESTRIL 30MG	1	0.96983	0.00437	222.01	<.0001
d264	DD ZESTRIL 40MG	1	0.96298	0.00437	220.44	<.0001
d265	DD ZESTRIL 5MG	1	1.00363	0.00437	229.75	<.0001
d266	DD ZIAGEN 20MG/M	1	0.94620	0.00437	216.60	<.0001
d267	DD ZIAGEN 300MG	1	0.94427	0.00437	216.16	<.0001
d268	DD ZOFRAN 4MG	1	0.93078	0.00437	213.07	<.0001
d269	DD ZOFRAN 4MG/5M	1	0.93494	0.00437	214.03	<.0001
d270	DD ZOFRAN 8MG	1	0.91659	0.00437	209.82	<.0001
d271	DD ZOFRAN ODT 4MG	1	0.92549	0.00437	211.86	<.0001
d272	DD ZOFRAN ODT 8MG	1	0.93731	0.00437	214.57	<.0001
d273	DD ZYPREXA 10MG	1	0.94591	0.00437	216.54	<.0001
d274	DD ZYPREXA 15MG	1	0.93894	0.00437	214.94	<.0001
d275	DD ZYPREXA 2.5MG	1	0.95025	0.00437	217.53	<.0001
d276	DD ZYPREXA 20MG	1	0.94409	0.00437	216.12	<.0001
d277	DD ZYPREXA 5MG	1	0.94793	0.00437	217.00	<.0001
d278	DD ZYPREXA 7.5MG	1	0.94664	0.00437	216.70	<.0001
td1	DD*Trend ACCOLATE 10MG	1	0.00007089	0.00018123	0.39	0.6957

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td2	DD*Trend ACCOLATE 20MG	1	0.00006933	0.00018123	0.38	0.7021
td3	DD*Trend ACCUPRIL 10MG	1	-0.00021474	0.00018123	-1.18	0.2361
td4	DD*Trend ACCUPRIL 20MG	1	-0.00023894	0.00018123	-1.32	0.1874
td5	DD*Trend ACCUPRIL 40MG	1	-0.00021173	0.00018123	-1.17	0.2427
td6	DD*Trend ACCUPRIL 5MG	1	-0.00030910	0.00018123	-1.71	0.0881
td7	DD*Trend ACIPHEX 20MG	1	0.00024823	0.00018123	1.37	0.1708
td8	DD*Trend ACTONEL 30MG	1	0.00011412	0.00018123	0.63	0.5289
td9	DD*Trend ACTONEL 5MG	1	-0.00000330	0.00018123	-0.02	0.9855
td10	DD*Trend ACTOS 15MG	1	0.00005880	0.00018123	0.32	0.7456
td11	DD*Trend ACTOS 30MG	1	0.00003624	0.00018123	0.20	0.8415
td12	DD*Trend ACTOS 45MG	1	5.737011E-7	0.00018123	0.00	0.9975
td13	DD*Trend ADVAIR DISKUS 100-50	1	-0.00012368	0.00018123	-0.68	0.4950
td14	DD*Trend ADVAIR DISKUS 250-50	1	-0.00001266	0.00018123	-0.07	0.9443
td15	DD*Trend ADVAIR DISKUS 500-50	1	0.00006005	0.00018123	0.33	0.7404
td16	DD*Trend AGGRENOX 25-200	1	-0.00013026	0.00018123	-0.72	0.4723
td17	DD*Trend ALDARA 5%	1	0.00007286	0.00018123	0.40	0.6877
td18	DD*Trend ALLEGRA 180MG	1	0.00028172	0.00018123	1.55	0.1201
td19	DD*Trend ALLEGRA 30MG	1	0.00066907	0.00018123	3.69	0.0002
td20	DD*Trend ALLEGRA 60MG	1	0.00048123	0.00018123	2.66	0.0079
td21	DD*Trend ALLEGRA-D 12 HOUR 120-60	1	0.00044131	0.00018123	2.44	0.0149
td22	DD*Trend AMARYL 1MG	1	-0.00277	0.00018123	-15.27	<.0001
td23	DD*Trend AMARYL 2MG	1	-0.00147	0.00018123	-8.13	<.0001
td24	DD*Trend AMARYL 4MG	1	-0.00047492	0.00018123	-2.62	0.0088
td25	DD*Trend AMERGE 1MG	1	0.00045613	0.00018123	2.52	0.0119
td26	DD*Trend AMERGE 2.5MG	1	0.00024152	0.00018123	1.33	0.1827
td27	DD*Trend ARAVA 10MG	1	-0.00000576	0.00018123	-0.03	0.9747
td28	DD*Trend ARAVA 20MG	1	-0.00008434	0.00018123	-0.47	0.6417
td29	DD*Trend ARIMIDEX 1MG	1	0.00002330	0.00018123	0.13	0.8977
td30	DD*Trend ARTHROTEC 50MG-0	1	0.00024488	0.00018123	1.35	0.1767
td31	DD*Trend ARTHROTEC 75MG-0	1	0.00016622	0.00018123	0.92	0.3591
td32	DD*Trend ATACAND 16MG	1	0.00023500	0.00018123	1.30	0.1948

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td33	DD*Trend ATACAND 32MG	1	0.00017516	0.00018123	0.97	0.3338
td34	DD*Trend ATACAND 4MG	1	-0.00013068	0.00018123	-0.72	0.4709
td35	DD*Trend ATACAND 8MG	1	-0.00010340	0.00018123	-0.57	0.5683
td36	DD*Trend ATROVENT 0.03%	1	-0.00087407	0.00018123	-4.82	<.0001
td37	DD*Trend ATROVENT 0.06%	1	-0.00112	0.00018123	-6.17	<.0001
td38	DD*Trend ATROVENT 18MCG	1	-0.00059901	0.00018123	-3.31	0.0010
td39	DD*Trend AVALIDE 150-12	1	0.00006747	0.00018123	0.37	0.7097
td40	DD*Trend AVALIDE 300-12	1	0.00008506	0.00018123	0.47	0.6388
td41	DD*Trend AVAPRO 150MG	1	0.00011415	0.00018123	0.63	0.5288
td42	DD*Trend AVAPRO 300MG	1	-0.00001321	0.00018123	-0.07	0.9419
td43	DD*Trend AVAPRO 75MG	1	0.00006061	0.00018123	0.33	0.7381
td44	DD*Trend BIAXIN 250MG	1	-0.00079898	0.00018123	-4.41	<.0001
td45	DD*Trend BIAXIN 500MG	1	-0.00075537	0.00018123	-4.17	<.0001
td46	DD*Trend CARDIZEM CD 120MG	1	0.00042171	0.00018123	2.33	0.0200
td47	DD*Trend CARDIZEM CD 180MG	1	0.00034344	0.00018123	1.90	0.0581
td48	DD*Trend CARDIZEM CD 240MG	1	0.00037784	0.00018123	2.08	0.0371
td49	DD*Trend CARDIZEM CD 300MG	1	0.00039427	0.00018123	2.18	0.0296
td50	DD*Trend CASODEX 50MG	1	0.00008845	0.00018123	0.49	0.6255
td51	DD*Trend CATAPRES TTS #1 2.5	1	-0.00058346	0.00018123	-3.22	0.0013
td52	DD*Trend CATAPRES TTS #2 5MG	1	-0.00035945	0.00018123	-1.98	0.0473
td53	DD*Trend CATAPRES TTS #3 7.5	1	-0.00018032	0.00018123	-0.99	0.3198
td54	DD*Trend CEFTIN 125MG/	1	0.00035251	0.00018123	1.95	0.0518
td55	DD*Trend CEFTIN 250MG	1	-0.00067851	0.00018123	-3.74	0.0002
td56	DD*Trend CEFTIN 250MG/	1	-0.00001088	0.00018123	-0.06	0.9521
td57	DD*Trend CEFTIN 500MG	1	0.00006302	0.00018123	0.35	0.7280
td58	DD*Trend CEFZIL 250MG	1	0.00017642	0.00018123	0.97	0.3303
td59	DD*Trend CEFZIL 500MG	1	0.00030480	0.00018123	1.68	0.0926
td60	DD*Trend CELEBREX 100MG	1	0.00026981	0.00018123	1.49	0.1366
td61	DD*Trend CELEBREX 200MG	1	0.00017221	0.00018123	0.95	0.3420
td62	DD*Trend CELEXA 10MG	1	-0.00047402	0.00018123	-2.62	0.0089
td63	DD*Trend CELEXA 20MG	1	-0.00030669	0.00018123	-1.69	0.0906

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td64	DD*Trend CELEXA 40MG	1	-0.00034349	0.00018123	-1.90	0.0581
td65	DD*Trend CELLCEPT 200MG/	1	0.00018695	0.00018123	1.03	0.3023
td66	DD*Trend CELLCEPT 250MG	1	-0.00027017	0.00018123	-1.49	0.1361
td67	DD*Trend CELLCEPT 500MG	1	-0.00006583	0.00018123	-0.36	0.7165
td68	DD*Trend CIPRO 250MG	1	-0.00054778	0.00018123	-3.02	0.0025
td69	DD*Trend CIPRO 250MG/	1	-0.00151	0.00018123	-8.34	<.0001
td70	DD*Trend CIPRO 500MG	1	-0.00034894	0.00018123	-1.93	0.0542
td71	DD*Trend CIPRO 500MG/	1	-0.00082187	0.00018123	-4.53	<.0001
td72	DD*Trend CIPRO 750MG	1	-0.00075559	0.00018123	-4.17	<.0001
td73	DD*Trend CLARITIN REDITABS 10MG	1	-0.00009896	0.00018123	-0.55	0.5850
td74	DD*Trend CLARITIN-D 12HR 5MG	1	0.00007748	0.00018123	0.43	0.6690
td75	DD*Trend CLARITIN-D 24HR 240-10	1	-0.00050608	0.00018123	-2.79	0.0052
td76	DD*Trend CLOZARIL 100MG	1	-0.00059776	0.00018123	-3.30	0.0010
td77	DD*Trend CLOZARIL 25MG	1	-0.00089982	0.00018123	-4.97	<.0001
td78	DD*Trend COMBIVENT 18-103	1	-0.00086704	0.00018123	-4.78	<.0001
td79	DD*Trend COMBIVIR 300MG-	1	-0.00003761	0.00018123	-0.21	0.8356
td80	DD*Trend COUMADIN 10MG	1	-0.00002994	0.00018123	-0.17	0.8688
td81	DD*Trend COUMADIN 1MG	1	-0.00017381	0.00018123	-0.96	0.3376
td82	DD*Trend COUMADIN 2.5MG	1	-0.00021669	0.00018123	-1.20	0.2319
td83	DD*Trend COUMADIN 2MG	1	-0.00001508	0.00018123	-0.08	0.9337
td84	DD*Trend COUMADIN 3MG	1	-0.00036410	0.00018123	-2.01	0.0446
td85	DD*Trend COUMADIN 4MG	1	-0.00032388	0.00018123	-1.79	0.0739
td86	DD*Trend COUMADIN 5MG	1	-0.00005137	0.00018123	-0.28	0.7769
td87	DD*Trend COUMADIN 6MG	1	-0.00000339	0.00018123	-0.02	0.9851
td88	DD*Trend COUMADIN 7.5MG	1	0.00007809	0.00018123	0.43	0.6666
td89	DD*Trend COVERA-HS 180MG	1	0.00074388	0.00018123	4.10	<.0001
td90	DD*Trend COVERA-HS 240MG	1	0.00071864	0.00018123	3.97	<.0001
td91	DD*Trend DEPAKOTE 125MG	1	-0.00122	0.00018123	-6.74	<.0001
td92	DD*Trend DEPAKOTE 250MG	1	-0.00102	0.00018123	-5.60	<.0001
td93	DD*Trend DEPAKOTE 500MG	1	-0.00099234	0.00018123	-5.48	<.0001
td94	DD*Trend DILANTIN 100MG	1	0.00010990	0.00018123	0.61	0.5443

Subject to Protective Order

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td95	DD*Trend DILANTIN 30MG	1	-0.00037469	0.00018123	-2.07	0.0387
td96	DD*Trend DILANTIN 50MG	1	-0.00055832	0.00018123	-3.08	0.0021
td97	DD*Trend DOVONEX 0.01%	1	0.00013272	0.00018123	0.73	0.4640
td98	DD*Trend DURAGESIC 100MCG	1	-0.00015773	0.00018123	-0.87	0.3841
td99	DD*Trend DURAGESIC 25MCG	1	-0.00023121	0.00018123	-1.28	0.2021
td100	DD*Trend DURAGESIC 50MCG	1	-0.00020037	0.00018123	-1.11	0.2689
td101	DD*Trend DURAGESIC 75MCG	1	-0.00018591	0.00018123	-1.03	0.3050
td102	DD*Trend ELOCON 0.10%	1	-0.00022060	0.00018123	-1.22	0.2235
td103	DD*Trend ENBREL 25MG	1	0.00039565	0.00018123	2.18	0.0290
td104	DD*Trend EPIVIR 10MG/M	1	0.00013783	0.00018123	0.76	0.4470
td105	DD*Trend EPIVIR 150MG	1	-0.00014626	0.00018123	-0.81	0.4197
td106	DD*Trend EVISTA 60MG	1	0.00004243	0.00018123	0.23	0.8149
td107	DD*Trend EXELON 1.5MG	1	-0.00004664	0.00018123	-0.26	0.7969
td108	DD*Trend EXELON 2MG/ML	1	0.00102	0.00018123	5.63	<.0001
td109	DD*Trend EXELON 3MG	1	0.00003599	0.00018123	0.20	0.8426
td110	DD*Trend EXELON 4.5MG	1	0.00004317	0.00018123	0.24	0.8117
td111	DD*Trend EXELON 6MG	1	0.00010153	0.00018123	0.56	0.5753
td112	DD*Trend FLONASE 0.05%	1	-0.00006548	0.00018123	-0.36	0.7179
td113	DD*Trend FLOVENT 110MCG	1	-0.00014477	0.00018123	-0.80	0.4244
td114	DD*Trend FLOVENT 220MCG	1	-0.00001423	0.00018123	-0.08	0.9374
td115	DD*Trend FLOVENT 44MCG	1	-0.00042160	0.00018123	-2.33	0.0200
td116	DD*Trend GLEEVEC 100MG	1	0.00158	0.00018123	8.72	<.0001
td117	DD*Trend GLUCOPHAGE 1000MG	1	0.00074006	0.00018123	4.08	<.0001
td118	DD*Trend GLUCOPHAGE 500MG	1	0.00020736	0.00018123	1.14	0.2526
td119	DD*Trend GLUCOPHAGE 850MG	1	-0.00005026	0.00018123	-0.28	0.7815
td120	DD*Trend GLUCOVANCE 1.25-2	1	-0.00062980	0.00018123	-3.48	0.0005
td121	DD*Trend GLUCOVANCE 2.5-50	1	-0.00031234	0.00018123	-1.72	0.0848
td122	DD*Trend GLUCOVANCE 5.0-50	1	-0.00024959	0.00018123	-1.38	0.1685
td123	DD*Trend IMITREX 100MG	1	-0.00002214	0.00018123	-0.12	0.9028
td124	DD*Trend IMITREX 20MG	1	0.00026150	0.00018123	1.44	0.1491
td125	DD*Trend IMITREX 25MG	1	0.00033301	0.00018123	1.84	0.0662



**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td126	DD*Trend IMITREX 50MG	1	0.00007310	0.00018123	0.40	0.6867
td127	DD*Trend IMITREX 5MG	1	0.00026218	0.00018123	1.45	0.1480
td128	DD*Trend LAMICTAL 100MG	1	-0.00000702	0.00018123	-0.04	0.9691
td129	DD*Trend LAMICTAL 150MG	1	-0.00002379	0.00018123	-0.13	0.8956
td130	DD*Trend LAMICTAL 200MG	1	9.114295E-7	0.00018123	0.01	0.9960
td131	DD*Trend LAMICTAL 25MG	1	-0.00001707	0.00018123	-0.09	0.9249
td132	DD*Trend LAMICTAL 5MG	1	-0.00013216	0.00018123	-0.73	0.4659
td133	DD*Trend LAMISIL 1%	1	0.00126	0.00018123	6.95	<.0001
td134	DD*Trend LAMISIL 250MG	1	0.00060821	0.00018123	3.36	0.0008
td135	DD*Trend LANOXIN 0.05MG	1	-0.00134	0.00018123	-7.41	<.0001
td136	DD*Trend LESCOL 20MG	1	0.00012174	0.00018123	0.67	0.5018
td137	DD*Trend LESCOL 40MG	1	0.00007080	0.00018123	0.39	0.6961
td138	DD*Trend LESCOL XL 80MG	1	-0.00012918	0.00018123	-0.71	0.4760
td139	DD*Trend LEVAQUIN 250MG	1	0.00008149	0.00018123	0.45	0.6530
td140	DD*Trend LEVAQUIN 500MG	1	0.00010516	0.00018123	0.58	0.5617
td141	DD*Trend LEVAQUIN 750MG	1	0.00462	0.00018123	25.47	<.0001
td142	DD*Trend LIPITOR 10MG	1	0.00003202	0.00018123	0.18	0.8598
td143	DD*Trend LIPITOR 20MG	1	0.00014639	0.00018123	0.81	0.4193
td144	DD*Trend LIPITOR 40MG	1	0.00024623	0.00018123	1.36	0.1743
td145	DD*Trend LIPITOR 80MG	1	0.00023605	0.00018123	1.30	0.1928
td146	DD*Trend LOTENSIN 10MG	1	-0.00031355	0.00018123	-1.73	0.0836
td147	DD*Trend LOTENSIN 20MG	1	-0.00025798	0.00018123	-1.42	0.1546
td148	DD*Trend LOTENSIN 40MG	1	-0.00029952	0.00018123	-1.65	0.0984
td149	DD*Trend LOTENSIN 5MG	1	-0.00008044	0.00018123	-0.44	0.6571
td150	DD*Trend LOTREL 2.5-10	1	0.00006242	0.00018123	0.34	0.7306
td151	DD*Trend LOTREL 5-10MG	1	0.00004554	0.00018123	0.25	0.8016
td152	DD*Trend LOTREL 5-20MG	1	-0.00003276	0.00018123	-0.18	0.8566
td153	DD*Trend MACROBID 100MG	1	-0.00117	0.00018123	-6.44	<.0001
td154	DD*Trend MOBIC 15MG	1	-0.00060323	0.00018123	-3.33	0.0009
td155	DD*Trend MOBIC 7.5MG	1	-0.00018013	0.00018123	-0.99	0.3203
td156	DD*Trend MONOPRIL 10MG	1	-0.00040824	0.00018123	-2.25	0.0243

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td157	DD*Trend MONOPRIL 20MG	1	-0.00048895	0.00018123	-2.70	0.0070
td158	DD*Trend MONOPRIL 40MG	1	-0.00023598	0.00018123	-1.30	0.1929
td159	DD*Trend NASONEX 50 MCG	1	-0.00032950	0.00018123	-1.82	0.0691
td160	DD*Trend NEURONTIN 100MG	1	-0.00020322	0.00018123	-1.12	0.2622
td161	DD*Trend NEURONTIN 300MG	1	-0.00007495	0.00018123	-0.41	0.6792
td162	DD*Trend NEURONTIN 400MG	1	-0.00003970	0.00018123	-0.22	0.8266
td163	DD*Trend NEXIUM 20MG	1	0.00014825	0.00018123	0.82	0.4134
td164	DD*Trend NEXIUM 40MG	1	0.00005433	0.00018123	0.30	0.7644
td165	DD*Trend ORTHO-CYCLEN-28 0.25-0	1	-0.00075031	0.00018123	-4.14	<.0001
td166	DD*Trend ORTHO-NOV 7/7/7 28 N/A	1	-0.00071523	0.00018123	-3.95	<.0001
td167	DD*Trend ORTHO-TRI-CY-28 N/A	1	-0.00089717	0.00018123	-4.95	<.0001
td168	DD*Trend PLAVIX 75MG	1	0.00010681	0.00018123	0.59	0.5556
td169	DD*Trend PLENDIL 10MG	1	4.473332E-8	0.00018123	0.00	0.9998
td170	DD*Trend PLENDIL 2.5MG	1	-0.00021950	0.00018123	-1.21	0.2259
td171	DD*Trend PLENDIL 5MG	1	-0.00003229	0.00018123	-0.18	0.8586
td172	DD*Trend PREVACID 15MG	1	0.00006553	0.00018123	0.36	0.7177
td173	DD*Trend PREVACID 30MG	1	0.00002349	0.00018123	0.13	0.8969
td174	DD*Trend PRILOSEC 10MG	1	-0.00294	0.00018123	-16.24	<.0001
td175	DD*Trend PRILOSEC 20MG	1	-0.00073064	0.00018123	-4.03	<.0001
td176	DD*Trend PRILOSEC 40MG	1	0.00027676	0.00018123	1.53	0.1268
td177	DD*Trend PRINIVIL 10MG	1	-0.00001971	0.00018123	-0.11	0.9134
td178	DD*Trend PRINIVIL 2.5MG	1	-0.00017623	0.00018123	-0.97	0.3309
td179	DD*Trend PRINIVIL 20MG	1	-0.00024609	0.00018123	-1.36	0.1745
td180	DD*Trend PRINIVIL 40MG	1	0.00001271	0.00018123	0.07	0.9441
td181	DD*Trend PRINIVIL 5MG	1	-0.00012784	0.00018123	-0.71	0.4806
td182	DD*Trend PROTONIX 40MG	1	0.00076168	0.00018123	4.20	<.0001
td183	DD*Trend PROZAC 10MG	1	-0.00026785	0.00018123	-1.48	0.1395
td184	DD*Trend PROZAC 20MG	1	-0.00019944	0.00018123	-1.10	0.2711
td185	DD*Trend PROZAC 20MG/5	1	-0.00089438	0.00018123	-4.94	<.0001
td186	DD*Trend PROZAC 40MG	1	0.00008808	0.00018123	0.49	0.6270
td187	DD*Trend PROZAC WEEKLY 90MG	1	-0.00016649	0.00018123	-0.92	0.3583

Subject to Protective Order



**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td188	DD*Trend PULMICORT TURBUHAL 200MCG	1	0.00021757	0.00018123	1.20	0.2300
td189	DD*Trend RAZADYNE 12MG	1	0.00019761	0.00018123	1.09	0.2756
td190	DD*Trend RAZADYNE 4MG	1	-0.00025569	0.00018123	-1.41	0.1583
td191	DD*Trend RAZADYNE 8MG	1	-0.00009769	0.00018123	-0.54	0.5899
td192	DD*Trend REMERON 15MG	1	-0.00040102	0.00018123	-2.21	0.0269
td193	DD*Trend REMERON 30MG	1	-0.00038388	0.00018123	-2.12	0.0342
td194	DD*Trend REMERON 45MG	1	-0.00087344	0.00018123	-4.82	<.0001
td195	DD*Trend RISPERDAL 0.25MG	1	0.00001932	0.00018123	0.11	0.9151
td196	DD*Trend RISPERDAL 0.5MG	1	-0.00014123	0.00018123	-0.78	0.4358
td197	DD*Trend RISPERDAL 1MG	1	-0.00026438	0.00018123	-1.46	0.1447
td198	DD*Trend RISPERDAL 1MG/ML	1	-0.00001471	0.00018123	-0.08	0.9353
td199	DD*Trend RISPERDAL 2MG	1	-0.00015578	0.00018123	-0.86	0.3900
td200	DD*Trend RISPERDAL 3MG	1	-0.00034869	0.00018123	-1.92	0.0544
td201	DD*Trend RISPERDAL 4MG	1	-0.00038801	0.00018123	-2.14	0.0323
td202	DD*Trend SEREVENT 25MCG	1	0.00100	0.00018123	5.54	<.0001
td203	DD*Trend SEREVENT DISKUS 50MCG	1	-0.00007094	0.00018123	-0.39	0.6955
td204	DD*Trend SEROQUEL 100MG	1	-0.00028635	0.00018123	-1.58	0.1141
td205	DD*Trend SEROQUEL 200MG	1	-0.00044223	0.00018123	-2.44	0.0147
td206	DD*Trend SEROQUEL 25MG	1	-0.00043748	0.00018123	-2.41	0.0158
td207	DD*Trend SEROQUEL 300MG	1	-0.00058117	0.00018123	-3.21	0.0013
td208	DD*Trend SERZONE 100MG	1	-6.05098E-7	0.00018123	-0.00	0.9973
td209	DD*Trend SERZONE 150MG	1	-0.00040968	0.00018123	-2.26	0.0238
td210	DD*Trend SERZONE 200MG	1	-0.00033313	0.00018123	-1.84	0.0661
td211	DD*Trend SERZONE 250MG	1	-0.00008008	0.00018123	-0.44	0.6586
td212	DD*Trend SERZONE 50MG	1	0.00029070	0.00018123	1.60	0.1087
td213	DD*Trend SPORANOX 100MG	1	0.00095791	0.00018123	5.29	<.0001
td214	DD*Trend SPORANOX 10MG/M	1	-0.00002539	0.00018123	-0.14	0.8886
td215	DD*Trend STARLIX 120MG	1	-0.00020183	0.00018123	-1.11	0.2654
td216	DD*Trend STARLIX 60MG	1	-0.00021153	0.00018123	-1.17	0.2432
td217	DD*Trend SUSTIVA 100MG	1	-0.00051952	0.00018123	-2.87	0.0042
td218	DD*Trend SUSTIVA 200MG	1	-0.00015667	0.00018123	-0.86	0.3873

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend  
 Filtered Drugs and Strengths

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td219	DD*Trend TEGRETOL XR 100MG	1	-0.00043979	0.00018123	-2.43	0.0153
td220	DD*Trend TEGRETOL XR 200MG	1	-0.00024965	0.00018123	-1.38	0.1684
td221	DD*Trend TEGRETOL XR 400MG	1	-0.00021652	0.00018123	-1.19	0.2322
td222	DD*Trend TEMODAR 100MG	1	0.00022785	0.00018123	1.26	0.2087
td223	DD*Trend TEMODAR 20MG	1	0.00037477	0.00018123	2.07	0.0387
td224	DD*Trend TEMODAR 250MG	1	0.00017697	0.00018123	0.98	0.3289
td225	DD*Trend TEMODAR 5MG	1	-0.00009864	0.00018123	-0.54	0.5862
td226	DD*Trend TEQUIN 200MG	1	0.00037372	0.00018123	2.06	0.0392
td227	DD*Trend TEQUIN 400MG	1	0.00045318	0.00018123	2.50	0.0124
td228	DD*Trend TOPAMAX 100MG	1	-0.00026897	0.00018123	-1.48	0.1378
td229	DD*Trend TOPAMAX 15MG	1	-0.00000349	0.00018123	-0.02	0.9846
td230	DD*Trend TOPAMAX 200MG	1	-0.00034199	0.00018123	-1.89	0.0592
td231	DD*Trend TOPAMAX 25MG	1	-0.00009824	0.00018123	-0.54	0.5878
td232	DD*Trend TOPROL-XL 100MG	1	-0.00033080	0.00018123	-1.83	0.0680
td233	DD*Trend TOPROL-XL 25MG	1	-0.00108	0.00018123	-5.96	<.0001
td234	DD*Trend TOPROL-XL 50MG	1	-0.00082437	0.00018123	-4.55	<.0001
td235	DD*Trend TRILEPTAL 150MG	1	-0.00051389	0.00018123	-2.84	0.0046
td236	DD*Trend TRILEPTAL 300MG	1	-0.00029187	0.00018123	-1.61	0.1073
td237	DD*Trend TRILEPTAL 300MG/	1	-0.00110	0.00018123	-6.09	<.0001
td238	DD*Trend TRILEPTAL 600MG	1	-0.00039130	0.00018123	-2.16	0.0309
td239	DD*Trend TRIZIVIR 300-15	1	-0.00009952	0.00018123	-0.55	0.5829
td240	DD*Trend ULTRAM 50MG	1	-0.00109	0.00018123	-6.02	<.0001
td241	DD*Trend VALTREX 500MG	1	0.00530	0.00018123	29.27	<.0001
td242	DD*Trend VIDEX EC 200MG	1	-0.00049685	0.00018123	-2.74	0.0061
td243	DD*Trend VIDEX EC 250MG	1	-0.00017607	0.00018123	-0.97	0.3313
td244	DD*Trend VIDEX EC 400MG	1	-0.00014521	0.00018123	-0.80	0.4230
td245	DD*Trend VIRACEPT 250MG	1	-0.00001789	0.00018123	-0.10	0.9214
td246	DD*Trend VIRACEPT 50MG/1	1	-0.00010772	0.00018123	-0.59	0.5523
td247	DD*Trend VIRAMUNE 200MG	1	-0.00009890	0.00018123	-0.55	0.5853
td248	DD*Trend VIRAMUNE 50MG/5	1	-0.00008716	0.00018123	-0.48	0.6306
td249	DD*Trend WELLBUTRIN SR 100MG	1	0.00012262	0.00018123	0.68	0.4987

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**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**

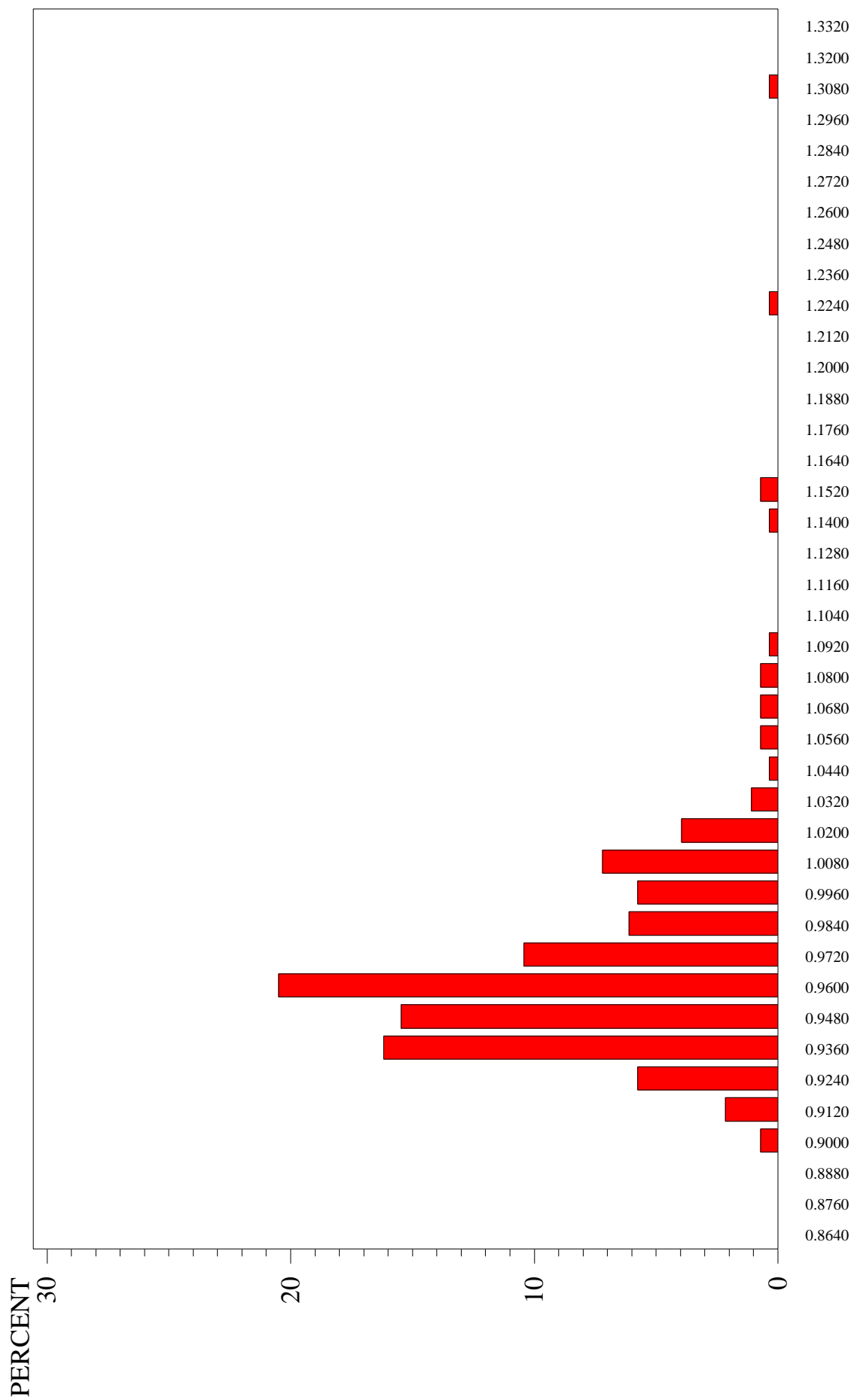
**Model: MODEL1**

**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td250	DD*Trend WELLBUTRIN SR 150MG	1	-0.00019936	0.00018123	-1.10	0.2713
td251	DD*Trend XELODA 150MG	1	0.00045335	0.00018123	2.50	0.0124
td252	DD*Trend XELODA 500MG	1	0.00037639	0.00018123	2.08	0.0378
td253	DD*Trend XENICAL 120MG	1	-0.00043598	0.00018123	-2.41	0.0162
td254	DD*Trend ZANTAC 150MG	1	-0.00016557	0.00018123	-0.91	0.3610
td255	DD*Trend ZANTAC 15MG/M	1	-0.00025262	0.00018123	-1.39	0.1634
td256	DD*Trend ZANTAC 300MG	1	-0.00013436	0.00018123	-0.74	0.4585
td257	DD*Trend ZESTORETIC 10-12.	1	0.00061933	0.00018123	3.42	0.0006
td258	DD*Trend ZESTORETIC 20-12.	1	0.00043792	0.00018123	2.42	0.0157
td259	DD*Trend ZESTORETIC 20-25M	1	0.00050883	0.00018123	2.81	0.0050
td260	DD*Trend ZESTRIL 10MG	1	0.00032130	0.00018123	1.77	0.0763
td261	DD*Trend ZESTRIL 2.5MG	1	-0.00031378	0.00018123	-1.73	0.0834
td262	DD*Trend ZESTRIL 20MG	1	0.00022360	0.00018123	1.23	0.2173
td263	DD*Trend ZESTRIL 30MG	1	0.00005509	0.00018123	0.30	0.7611
td264	DD*Trend ZESTRIL 40MG	1	0.00024356	0.00018123	1.34	0.1790
td265	DD*Trend ZESTRIL 5MG	1	0.00007590	0.00018123	0.42	0.6754
td266	DD*Trend ZIAGEN 20MG/M	1	-0.00056109	0.00018123	-3.10	0.0020
td267	DD*Trend ZIAGEN 300MG	1	-0.00016640	0.00018123	-0.92	0.3586
td268	DD*Trend ZOFRAN 4MG	1	0.00047699	0.00018123	2.63	0.0085
td269	DD*Trend ZOFRAN 4MG/5M	1	0.00066753	0.00018123	3.68	0.0002
td270	DD*Trend ZOFRAN 8MG	1	0.00056173	0.00018123	3.10	0.0019
td271	DD*Trend ZOFRAN ODT 4MG	1	0.00092561	0.00018123	5.11	<.0001
td272	DD*Trend ZOFRAN ODT 8MG	1	0.00024852	0.00018123	1.37	0.1703
td273	DD*Trend ZYPREXA 10MG	1	-0.00036655	0.00018123	-2.02	0.0431
td274	DD*Trend ZYPREXA 15MG	1	-0.00021372	0.00018123	-1.18	0.2383
td275	DD*Trend ZYPREXA 2.5MG	1	-0.00020328	0.00018123	-1.12	0.2620
td276	DD*Trend ZYPREXA 20MG	1	-0.00047548	0.00018123	-2.62	0.0087
td277	DD*Trend ZYPREXA 5MG	1	-0.00026354	0.00018123	-1.45	0.1459
td278	DD*Trend ZYPREXA 7.5MG	1	-0.00040026	0.00018123	-2.21	0.0272

Exhibit F.1.c

Appendix A Drug-Strengths  
Drug-Strength Specific AA/AWP Intercept Coefficients  
Distribution of Coefficients

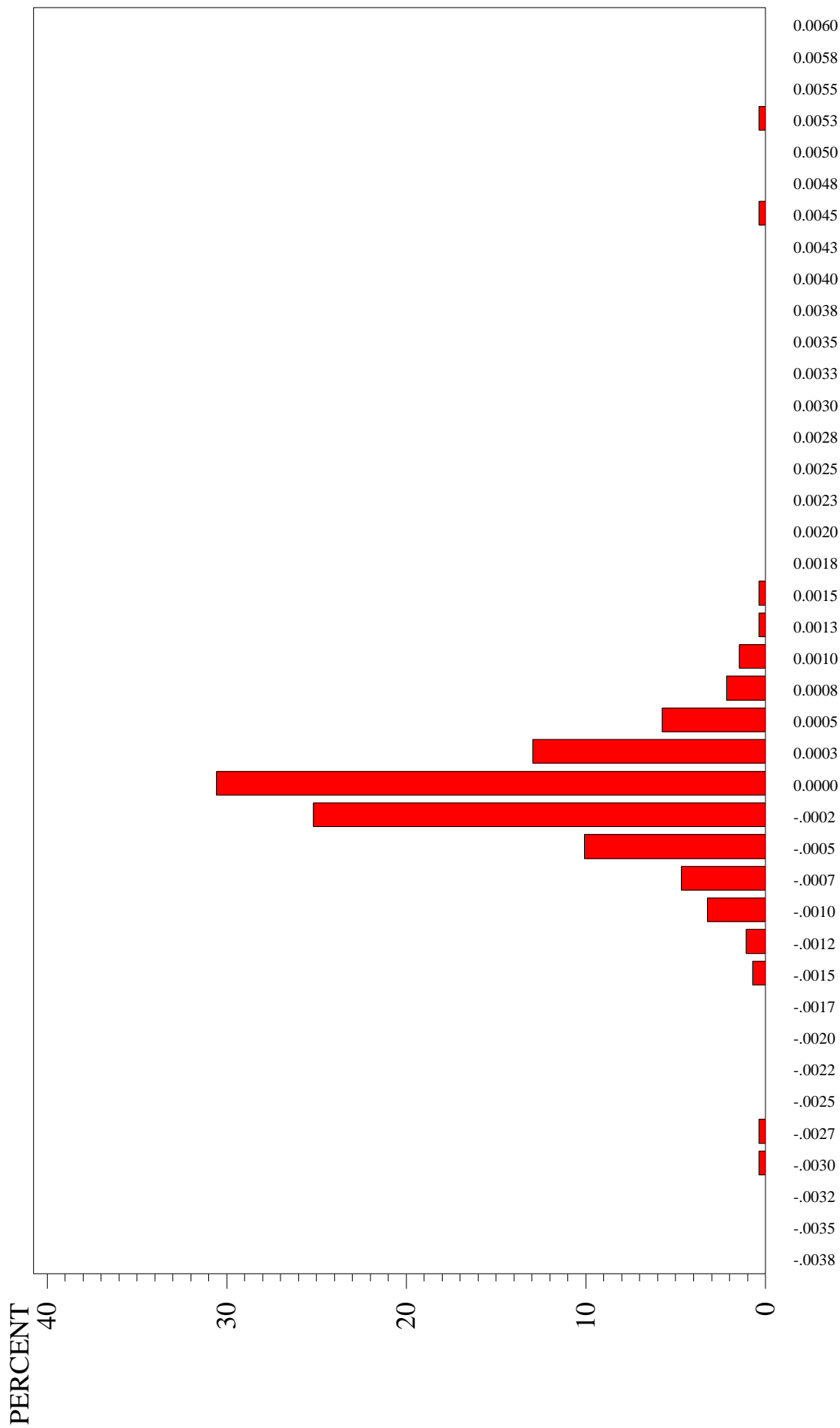


Note: Of the 278 coefficients, there are 278 positive (278 significant) and 0 negative (0 significant).

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Exhibit F.I.c

Appendix A Drug/Strengths  
Drug-Strength Specific AA/AWP Time-Trend Coefficients  
Distribution of Coefficients



Note: Of the 278 coefficients, there are 108 positive (32 significant) and 170 negative (61 significant).

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***Calculation of Scheme Impact  
For Selected Appendix-A Drugs and Strengths (278)<sup>1</sup>  
Averaged Across All Drugs and Strengths***

Type of Comparison	Number of Drug Strengths	Change in AA/WAC	Percent Increase in AA/WAC
1-6 mos after - 6 mos before	278	3.82%	3.26%
2-7 mos after - 6 mos before	278	3.90%	3.33%
7-12 mos after - 6 mos before	277	3.78%	3.23%
13-18 mos after - 6 mos before	277	3.83%	3.27%
19-24 mos after - 6 mos before	265	3.99%	3.40%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 1-6 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ACCOLATE	10MG	3.92%	3.34%
ACCOLATE	20MG	4.23%	3.66%
ACCUPRIL	10MG	4.27%	3.54%
ACCUPRIL	20MG	4.31%	3.58%
ACCUPRIL	40MG	4.28%	3.56%
ACCUPRIL	5MG	4.23%	3.49%
ACIPHEX	20MG	4.91%	4.33%
ACTONEL	30MG	5.21%	4.54%
ACTONEL	5MG	4.47%	3.86%
ACTOS	15MG	4.35%	3.80%
ACTOS	30MG	4.41%	3.91%
ACTOS	45MG	4.33%	3.85%
ADVAIR DISKUS	100-50	4.44%	3.91%
ADVAIR DISKUS	250-50	4.66%	4.14%
ADVAIR DISKUS	500-50	4.68%	4.18%
AGGRENOX	25-200	3.74%	3.23%
ALDARA	5%	2.85%	2.48%
ALLEGRA	180MG	4.71%	4.09%
ALLEGRA	30MG	4.58%	3.78%
ALLEGRA	60MG	2.95%	2.56%
ALLEGRA-D 12 HOUR	120-60	4.58%	3.95%
AMARYL	1MG	3.24%	2.09%
AMARYL	2MG	3.74%	2.73%
AMARYL	4MG	4.01%	3.32%
AMERGE	1MG	5.37%	4.72%
AMERGE	2.5MG	3.69%	3.25%
ARAVA	10MG	4.31%	3.83%
ARAVA	20MG	4.19%	3.74%
ARIMIDEX	1MG	4.24%	3.76%
ARTHROTEC	50MG-0	4.22%	3.65%
ARTHROTEC	75MG-0	4.46%	3.85%
ATACAND	16MG	3.89%	3.24%
ATACAND	32MG	4.36%	3.70%
ATACAND	4MG	2.95%	2.42%
ATACAND	8MG	4.22%	3.50%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 1-6 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ATROVENT	0.03%	3.28%	2.76%
ATROVENT	0.06%	3.10%	2.58%
ATROVENT	18MCG	4.00%	3.38%
AVALIDE	150-12	4.02%	3.41%
AVALIDE	300-12	3.51%	2.97%
AVAPRO	150MG	3.78%	3.16%
AVAPRO	300MG	3.53%	2.98%
AVAPRO	75MG	4.23%	3.51%
BIAXIN	250MG	0.32%	0.29%
BIAXIN	500MG	0.30%	0.27%
CARDIZEM CD	120MG	2.93%	2.45%
CARDIZEM CD	180MG	2.94%	2.58%
CARDIZEM CD	240MG	3.18%	2.77%
CARDIZEM CD	300MG	3.61%	3.17%
CASODEX	50MG	4.70%	4.22%
CATAPRES TTS	#1 2.5	3.05%	2.50%
CATAPRES TTS	#2 5MG	3.13%	2.66%
CATAPRES TTS	#3 7.5	3.34%	2.89%
CEFTIN	125MG/	0.87%	0.71%
CEFTIN	250MG	0.56%	0.49%
CEFTIN	250MG/	0.74%	0.63%
CEFTIN	500MG	1.35%	1.20%
CEFZIL	250MG	3.92%	3.37%
CEFZIL	500MG	4.25%	3.78%
CELEBREX	100MG	4.51%	3.85%
CELEBREX	200MG	4.33%	3.74%
CELEXA	10MG	4.56%	3.92%
CELEXA	20MG	4.50%	3.89%
CELEXA	40MG	4.62%	3.98%
CELLCEPT	200MG/	4.50%	4.08%
CELLCEPT	250MG	3.97%	3.52%
CELLCEPT	500MG	4.40%	3.93%
CIPRO	250MG	4.31%	3.65%
CIPRO	250MG/	5.44%	4.62%
CIPRO	500MG	4.38%	3.77%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.



**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 1-6 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
CIPRO	500MG/	3.97%	3.40%
CIPRO	750MG	4.24%	3.66%
CLARITIN REDITABS	10MG	3.44%	2.99%
CLARITIN-D 12HR	5MG	2.98%	2.57%
CLARITIN-D 24HR	240-10	3.27%	2.86%
CLOZARIL	100MG	4.63%	4.00%
CLOZARIL	25MG	3.82%	3.09%
COMBIVENT	18-103	2.63%	2.21%
COMBIVIR	300MG-	4.38%	3.90%
COUMADIN	10MG	3.69%	3.03%
COUMADIN	1MG	3.88%	3.16%
COUMADIN	2.5MG	3.65%	2.96%
COUMADIN	2MG	4.06%	3.32%
COUMADIN	3MG	3.66%	2.86%
COUMADIN	4MG	3.59%	2.84%
COUMADIN	5MG	3.38%	2.75%
COUMADIN	6MG	4.47%	3.63%
COUMADIN	7.5MG	4.12%	3.36%
COVERA-HS	180MG	3.90%	3.28%
COVERA-HS	240MG	3.84%	3.29%
DEPAKOTE	125MG	( 0.26%)	( 0.23%)
DEPAKOTE	250MG	( 0.21%)	( 0.19%)
DEPAKOTE	500MG	( 0.36%)	( 0.32%)
DILANTIN	100MG	4.18%	3.37%
DILANTIN	30MG	3.77%	2.56%
DILANTIN	50MG	3.78%	2.72%
DOVONEX	0.01%	3.96%	3.39%
DURAGESIC	100MCG	4.82%	4.25%
DURAGESIC	25MCG	4.37%	3.73%
DURAGESIC	50MCG	4.25%	3.69%
DURAGESIC	75MCG	4.37%	3.83%
ELOCON	0.10%	7.43%	5.51%
ENBREL	25MG	4.39%	3.94%
EPIVIR	10MG/M	5.74%	4.96%
EPIVIR	150MG	4.35%	3.84%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 1-6 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
EVISTA	60MG	3.65%	3.17%
EXELON	1.5MG	4.57%	3.94%
EXELON	2MG/ML	7.71%	6.81%
EXELON	3MG	4.31%	3.72%
EXELON	4.5MG	3.99%	3.45%
EXELON	6MG	3.84%	3.33%
FLONASE	0.05%	4.62%	3.99%
FLOVENT	110MCG	4.36%	3.76%
FLOVENT	220MCG	4.47%	3.92%
FLOVENT	44MCG	4.23%	3.59%
GLEEVEC	100MG	4.32%	3.85%
GLUCOPHAGE	1000MG	0.25%	0.22%
GLUCOPHAGE	500MG	1.79%	1.53%
GLUCOPHAGE	850MG	0.41%	0.36%
GLUCOVANCE	1.25-2	3.06%	2.49%
GLUCOVANCE	2.5-50	3.27%	2.75%
GLUCOVANCE	5.0-50	3.30%	2.80%
IMITREX	100MG	4.57%	4.02%
IMITREX	20MG	3.69%	3.26%
IMITREX	25MG	3.67%	3.26%
IMITREX	50MG	4.63%	4.10%
IMITREX	5MG	2.85%	2.49%
LAMICTAL	100MG	4.53%	4.01%
LAMICTAL	150MG	4.58%	4.05%
LAMICTAL	200MG	4.64%	4.09%
LAMICTAL	25MG	4.36%	3.88%
LAMICTAL	5MG	5.62%	5.02%
LAMISIL	1%	3.25%	2.90%
LAMISIL	250MG	4.89%	4.25%
LANOXIN	0.05MG	2.92%	2.36%
LESCOL	20MG	3.85%	3.26%
LESCOL	40MG	3.84%	3.25%
LESCOL XL	80MG	3.81%	3.26%
LEVAQUIN	250MG	4.63%	3.90%
LEVAQUIN	500MG	4.70%	4.05%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 1-6 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
LEVAQUIN	750MG	4.63%	4.01%
LIPITOR	10MG	3.94%	3.43%
LIPITOR	20MG	4.22%	3.74%
LIPITOR	40MG	4.53%	4.03%
LIPITOR	80MG	4.65%	4.12%
LOTENSIN	10MG	4.52%	3.68%
LOTENSIN	20MG	4.36%	3.57%
LOTENSIN	40MG	4.43%	3.61%
LOTENSIN	5MG	4.71%	3.80%
LOTREL	2.5-10	4.56%	3.89%
LOTREL	5-10MG	4.41%	3.77%
LOTREL	5-20MG	4.40%	3.78%
MACROBID	100MG	4.44%	3.53%
MOBIC	15MG	0.79%	0.65%
MOBIC	7.5MG	0.71%	0.59%
MONOPRIL	10MG	4.25%	3.47%
MONOPRIL	20MG	4.28%	3.52%
MONOPRIL	40MG	4.25%	3.48%
NASONEX	50 MCG	4.17%	3.58%
NEURONTIN	100MG	3.81%	3.15%
NEURONTIN	300MG	4.02%	3.50%
NEURONTIN	400MG	4.05%	3.55%
NEXIUM	20MG	4.00%	3.50%
NEXIUM	40MG	4.02%	3.53%
ORTHO-CYCLEN-28	0.25-0	2.95%	2.47%
ORTHO-NOV 7/7/7 28	N/A	3.29%	2.77%
ORTHO-TRI-CY-28	N/A	3.43%	2.86%
PLAVIX	75MG	4.38%	3.83%
PLENDIL	10MG	4.59%	3.97%
PLENDIL	2.5MG	4.25%	3.50%
PLENDIL	5MG	4.60%	3.83%
PREVACID	15MG	4.68%	4.14%
PREVACID	30MG	4.75%	4.20%
PRILOSEC	10MG	3.55%	3.16%
PRILOSEC	20MG	4.44%	3.97%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 1-6 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
PRILOSEC	40MG	4.56%	4.10%
PRINIVIL	10MG	2.37%	1.93%
PRINIVIL	2.5MG	1.71%	1.29%
PRINIVIL	20MG	1.94%	1.59%
PRINIVIL	40MG	1.81%	1.52%
PRINIVIL	5MG	2.15%	1.74%
PROTONIX	40MG	1.29%	1.13%
PROZAC	10MG	3.94%	3.51%
PROZAC	20MG	3.93%	3.51%
PROZAC	20MG/5	3.64%	3.32%
PROZAC	40MG	3.59%	3.19%
PROZAC WEEKLY	90MG	3.83%	3.30%
PULMICORT TURBUHAL	200MCG	2.95%	2.61%
RAZADYNE	12MG	4.25%	3.69%
RAZADYNE	4MG	3.51%	3.01%
RAZADYNE	8MG	3.70%	3.18%
REMERON	15MG	3.26%	2.76%
REMERON	30MG	3.59%	3.06%
REMERON	45MG	4.28%	3.64%
RISPERDAL	0.25MG	4.56%	3.97%
RISPERDAL	0.5MG	4.46%	3.87%
RISPERDAL	1MG	4.36%	3.78%
RISPERDAL	1MG/ML	4.33%	3.79%
RISPERDAL	2MG	4.23%	3.71%
RISPERDAL	3MG	4.08%	3.58%
RISPERDAL	4MG	4.04%	3.55%
SEREVENT	25MCG	3.84%	3.33%
SEREVENT DISKUS	50MCG	4.25%	3.70%
SEROQUEL	100MG	4.36%	3.80%
SEROQUEL	200MG	4.09%	3.60%
SEROQUEL	25MG	4.29%	3.68%
SEROQUEL	300MG	2.99%	2.63%
SERZONE	100MG	4.34%	3.76%
SERZONE	150MG	4.41%	3.83%
SERZONE	200MG	4.31%	3.72%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 1-6 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
SERZONE	250MG	4.17%	3.57%
SERZONE	50MG	4.61%	3.93%
SPORANOX	100MG	5.69%	4.92%
SPORANOX	10MG/M	3.74%	3.24%
STARLIX	120MG	4.04%	3.47%
STARLIX	60MG	3.79%	3.23%
SUSTIVA	100MG	1.86%	1.62%
SUSTIVA	200MG	3.88%	3.44%
TEGRETOL XR	100MG	3.89%	3.01%
TEGRETOL XR	200MG	3.98%	3.32%
TEGRETOL XR	400MG	3.48%	2.96%
TEMODAR	100MG	4.85%	4.38%
TEMODAR	20MG	4.10%	3.66%
TEMODAR	250MG	6.12%	5.56%
TEMODAR	5MG	4.43%	3.90%
TEQUIN	200MG	1.13%	0.93%
TEQUIN	400MG	4.15%	3.55%
TOPAMAX	100MG	4.62%	4.07%
TOPAMAX	15MG	4.86%	4.23%
TOPAMAX	200MG	4.13%	3.64%
TOPAMAX	25MG	4.50%	3.89%
TOPROL-XL	100MG	2.64%	2.15%
TOPROL-XL	25MG	1.18%	0.90%
TOPROL-XL	50MG	1.68%	1.29%
TRILEPTAL	150MG	4.67%	3.93%
TRILEPTAL	300MG	4.42%	3.82%
TRILEPTAL	300MG/	1.20%	1.01%
TRILEPTAL	600MG	4.12%	3.58%
TRIZIVIR	300-15	4.42%	3.93%
ULTRAM	50MG	2.99%	2.45%
VALTREX	500MG	4.29%	3.72%
VIDEX EC	200MG	4.01%	3.43%
VIDEX EC	250MG	4.90%	4.21%
VIDEX EC	400MG	4.70%	4.13%
VIRACEPT	250MG	4.18%	3.71%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 1-6 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
VIRACEPT	50MG/1	4.68%	4.08%
VIRAMUNE	200MG	3.97%	3.51%
VIRAMUNE	50MG/5	3.70%	3.21%
WELLBUTRIN SR	100MG	3.99%	3.49%
WELLBUTRIN SR	150MG	3.92%	3.40%
XELODA	150MG	3.76%	3.35%
XELODA	500MG	6.07%	5.52%
XENICAL	120MG	3.93%	3.20%
ZANTAC	150MG	3.84%	3.36%
ZANTAC	15MG/M	3.55%	2.96%
ZANTAC	300MG	5.07%	4.51%
ZESTORETIC	10-12.	4.27%	3.54%
ZESTORETIC	20-12.	4.23%	3.56%
ZESTORETIC	20-25M	4.27%	3.58%
ZESTRIL	10MG	4.65%	3.87%
ZESTRIL	2.5MG	4.13%	3.20%
ZESTRIL	20MG	4.50%	3.78%
ZESTRIL	30MG	4.54%	3.88%
ZESTRIL	40MG	4.50%	3.87%
ZESTRIL	5MG	4.47%	3.69%
ZIAGEN	20MG/M	5.07%	4.45%
ZIAGEN	300MG	4.43%	3.91%
ZOFRAN	4MG	3.58%	3.16%
ZOFRAN	4MG/5M	2.15%	1.86%
ZOFRAN	8MG	3.45%	3.09%
ZOFRAN ODT	4MG	5.33%	4.68%
ZOFRAN ODT	8MG	3.83%	3.36%
ZYPREXA	10MG	3.91%	3.46%
ZYPREXA	15MG	3.80%	3.37%
ZYPREXA	2.5MG	3.77%	3.30%
ZYPREXA	20MG	3.22%	2.86%
ZYPREXA	5MG	3.88%	3.41%
ZYPREXA	7.5MG	3.67%	3.24%
All	All	3.82%	3.26%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 2-7 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ACCOLATE	10MG	3.88%	3.31%
ACCOLATE	20MG	4.30%	3.72%
ACCUPRIL	10MG	4.31%	3.57%
ACCUPRIL	20MG	4.34%	3.60%
ACCUPRIL	40MG	4.31%	3.58%
ACCUPRIL	5MG	4.26%	3.51%
ACIPHEX	20MG	5.56%	4.90%
ACTONEL	30MG	5.23%	4.56%
ACTONEL	5MG	4.46%	3.85%
ACTOS	15MG	4.56%	3.98%
ACTOS	30MG	4.63%	4.10%
ACTOS	45MG	4.53%	4.03%
ADVAIR DISKUS	100-50	4.50%	3.96%
ADVAIR DISKUS	250-50	4.75%	4.21%
ADVAIR DISKUS	500-50	4.77%	4.26%
AGGRENOX	25-200	3.53%	3.05%
ALDARA	5%	3.05%	2.66%
ALLEGRA	180MG	4.77%	4.14%
ALLEGRA	30MG	4.70%	3.87%
ALLEGRA	60MG	3.61%	3.13%
ALLEGRA-D 12 HOUR	120-60	4.70%	4.05%
AMARYL	1MG	2.28%	1.47%
AMARYL	2MG	3.14%	2.30%
AMARYL	4MG	3.52%	2.92%
AMERGE	1MG	5.86%	5.15%
AMERGE	2.5MG	3.90%	3.44%
ARAVA	10MG	4.61%	4.09%
ARAVA	20MG	4.30%	3.83%
ARIMIDEX	1MG	4.30%	3.82%
ARTHROTEC	50MG-0	4.28%	3.70%
ARTHROTEC	75MG-0	4.44%	3.83%
ATACAND	16MG	3.97%	3.30%
ATACAND	32MG	4.33%	3.68%
ATACAND	4MG	3.23%	2.66%
ATACAND	8MG	4.18%	3.46%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

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**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 2-7 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ATROVENT	0.03%	2.93%	2.46%
ATROVENT	0.06%	2.69%	2.24%
ATROVENT	18MCG	5.10%	4.31%
AVALIDE	150-12	4.06%	3.44%
AVALIDE	300-12	3.55%	3.00%
AVAPRO	150MG	3.80%	3.18%
AVAPRO	300MG	3.52%	2.96%
AVAPRO	75MG	4.28%	3.55%
BIAXIN	250MG	0.45%	0.40%
BIAXIN	500MG	0.41%	0.36%
CARDIZEM CD	120MG	3.42%	2.86%
CARDIZEM CD	180MG	3.32%	2.91%
CARDIZEM CD	240MG	3.59%	3.13%
CARDIZEM CD	300MG	4.00%	3.51%
CASODEX	50MG	4.76%	4.27%
CATAPRES TTS	#1 2.5	2.69%	2.21%
CATAPRES TTS	#2 5MG	2.81%	2.39%
CATAPRES TTS	#3 7.5	3.01%	2.60%
CEFTIN	125MG/	0.72%	0.59%
CEFTIN	250MG	0.45%	0.39%
CEFTIN	250MG/	0.86%	0.73%
CEFTIN	500MG	1.44%	1.28%
CEFZIL	250MG	3.96%	3.40%
CEFZIL	500MG	4.31%	3.82%
CELEBREX	100MG	4.68%	4.00%
CELEBREX	200MG	4.45%	3.85%
CELEXA	10MG	4.53%	3.89%
CELEXA	20MG	4.45%	3.85%
CELEXA	40MG	4.57%	3.93%
CELLCEPT	200MG/	4.97%	4.50%
CELLCEPT	250MG	3.92%	3.48%
CELLCEPT	500MG	4.36%	3.89%
CIPRO	250MG	3.60%	3.05%
CIPRO	250MG/	4.72%	4.01%
CIPRO	500MG	3.70%	3.18%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.



**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 2-7 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
CIPRO	500MG/	3.47%	2.97%
CIPRO	750MG	3.33%	2.88%
CLARITIN REDITABS	10MG	3.51%	3.05%
CLARITIN-D 12HR	5MG	3.01%	2.59%
CLARITIN-D 24HR	240-10	3.35%	2.93%
CLOZARIL	100MG	4.76%	4.11%
CLOZARIL	25MG	4.03%	3.26%
COMBIVENT	18-103	2.64%	2.22%
COMBIVIR	300MG-	4.53%	4.03%
COUMADIN	10MG	3.72%	3.06%
COUMADIN	1MG	3.85%	3.13%
COUMADIN	2.5MG	3.66%	2.97%
COUMADIN	2MG	4.06%	3.31%
COUMADIN	3MG	3.69%	2.88%
COUMADIN	4MG	3.59%	2.84%
COUMADIN	5MG	3.35%	2.73%
COUMADIN	6MG	4.48%	3.64%
COUMADIN	7.5MG	3.99%	3.26%
COVERA-HS	180MG	3.94%	3.31%
COVERA-HS	240MG	3.89%	3.33%
DEPAKOTE	125MG	( 0.16%)	( 0.14%)
DEPAKOTE	250MG	( 0.14%)	( 0.12%)
DEPAKOTE	500MG	( 0.31%)	( 0.28%)
DILANTIN	100MG	4.30%	3.46%
DILANTIN	30MG	3.71%	2.52%
DILANTIN	50MG	3.79%	2.72%
DOVONEX	0.01%	4.30%	3.69%
DURAGESIC	100MCG	4.86%	4.28%
DURAGESIC	25MCG	4.38%	3.73%
DURAGESIC	50MCG	4.25%	3.68%
DURAGESIC	75MCG	4.34%	3.80%
ELOCON	0.10%	7.49%	5.55%
ENBREL	25MG	4.99%	4.48%
EPIVIR	10MG/M	6.22%	5.37%
EPIVIR	150MG	4.52%	3.98%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 2-7 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
EVISTA	60MG	3.64%	3.16%
EXELON	1.5MG	4.68%	4.03%
EXELON	2MG/ML	7.62%	6.72%
EXELON	3MG	4.44%	3.83%
EXELON	4.5MG	4.12%	3.56%
EXELON	6MG	3.99%	3.45%
FLONASE	0.05%	4.67%	4.03%
FLOVENT	110MCG	4.52%	3.90%
FLOVENT	220MCG	4.61%	4.05%
FLOVENT	44MCG	4.36%	3.70%
GLEEVEC	100MG	4.45%	3.96%
GLUCOPHAGE	1000MG	0.07%	0.06%
GLUCOPHAGE	500MG	1.86%	1.59%
GLUCOPHAGE	850MG	0.39%	0.34%
GLUCOVANCE	1.25-2	3.10%	2.52%
GLUCOVANCE	2.5-50	3.41%	2.87%
GLUCOVANCE	5.0-50	3.41%	2.90%
IMITREX	100MG	4.74%	4.16%
IMITREX	20MG	3.84%	3.39%
IMITREX	25MG	3.74%	3.32%
IMITREX	50MG	4.79%	4.24%
IMITREX	5MG	3.11%	2.72%
LAMICTAL	100MG	4.64%	4.11%
LAMICTAL	150MG	4.86%	4.29%
LAMICTAL	200MG	4.88%	4.30%
LAMICTAL	25MG	4.54%	4.04%
LAMICTAL	5MG	5.92%	5.29%
LAMISIL	1%	3.49%	3.11%
LAMISIL	250MG	5.12%	4.45%
LANOXIN	0.05MG	3.09%	2.50%
LESCOL	20MG	3.97%	3.36%
LESCOL	40MG	3.95%	3.34%
LESCOL XL	80MG	3.83%	3.28%
LEVAQUIN	250MG	4.63%	3.91%
LEVAQUIN	500MG	4.69%	4.04%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 2-7 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
LEVAQUIN	750MG	4.62%	4.01%
LIPITOR	10MG	4.04%	3.52%
LIPITOR	20MG	4.31%	3.82%
LIPITOR	40MG	4.64%	4.12%
LIPITOR	80MG	4.74%	4.20%
LOTENSIN	10MG	4.54%	3.69%
LOTENSIN	20MG	4.39%	3.60%
LOTENSIN	40MG	4.44%	3.62%
LOTENSIN	5MG	4.70%	3.80%
LOTREL	2.5-10	4.70%	4.01%
LOTREL	5-10MG	4.45%	3.80%
LOTREL	5-20MG	4.44%	3.82%
MACROBID	100MG	4.35%	3.45%
MOBIC	15MG	0.05%	0.05%
MOBIC	7.5MG	0.16%	0.13%
MONOPRIL	10MG	4.38%	3.57%
MONOPRIL	20MG	4.42%	3.64%
MONOPRIL	40MG	4.39%	3.60%
NASONEX	50 MCG	4.24%	3.64%
NEURONTIN	100MG	3.83%	3.16%
NEURONTIN	300MG	4.11%	3.57%
NEURONTIN	400MG	4.15%	3.63%
NEXIUM	20MG	4.12%	3.61%
NEXIUM	40MG	4.12%	3.62%
ORTHO-CYCLEN-28	0.25-0	3.05%	2.55%
ORTHO-NOV 7/7/7 28	N/A	3.59%	3.02%
ORTHO-TRI-CY-28	N/A	3.73%	3.11%
PLAVIX	75MG	4.52%	3.95%
PLENDIL	10MG	4.67%	4.04%
PLENDIL	2.5MG	4.38%	3.61%
PLENDIL	5MG	4.75%	3.95%
PREVACID	15MG	4.80%	4.24%
PREVACID	30MG	4.86%	4.30%
PRILOSEC	10MG	3.58%	3.18%
PRILOSEC	20MG	4.51%	4.03%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 2-7 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
PRILOSEC	40MG	4.63%	4.16%
PRINIVIL	10MG	2.40%	1.95%
PRINIVIL	2.5MG	1.44%	1.09%
PRINIVIL	20MG	1.96%	1.61%
PRINIVIL	40MG	1.62%	1.36%
PRINIVIL	5MG	2.16%	1.75%
PROTONIX	40MG	1.81%	1.58%
PROZAC	10MG	3.96%	3.53%
PROZAC	20MG	4.12%	3.67%
PROZAC	20MG/5	3.87%	3.53%
PROZAC	40MG	3.65%	3.25%
PROZAC WEEKLY	90MG	3.06%	2.63%
PULMICORT TURBUHAL	200MCG	3.12%	2.76%
RAZADYNE	12MG	4.38%	3.80%
RAZADYNE	4MG	3.60%	3.09%
RAZADYNE	8MG	3.76%	3.24%
REMERON	15MG	3.12%	2.65%
REMERON	30MG	3.53%	3.02%
REMERON	45MG	4.26%	3.62%
RISPERDAL	0.25MG	4.66%	4.06%
RISPERDAL	0.5MG	4.57%	3.96%
RISPERDAL	1MG	4.45%	3.86%
RISPERDAL	1MG/ML	4.45%	3.90%
RISPERDAL	2MG	4.38%	3.83%
RISPERDAL	3MG	4.20%	3.68%
RISPERDAL	4MG	4.09%	3.59%
SEREVENT	25MCG	3.94%	3.42%
SEREVENT DISKUS	50MCG	4.39%	3.83%
SEROQUEL	100MG	4.46%	3.89%
SEROQUEL	200MG	4.18%	3.68%
SEROQUEL	25MG	4.37%	3.75%
SEROQUEL	300MG	3.23%	2.85%
SERZONE	100MG	4.39%	3.80%
SERZONE	150MG	4.48%	3.90%
SERZONE	200MG	4.40%	3.80%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 2-7 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
SERZONE	250MG	4.33%	3.71%
SERZONE	50MG	4.67%	3.98%
SPORANOX	100MG	5.68%	4.90%
SPORANOX	10MG/M	3.79%	3.28%
STARLIX	120MG	4.17%	3.59%
STARLIX	60MG	3.89%	3.32%
SUSTIVA	100MG	2.31%	2.02%
SUSTIVA	200MG	3.88%	3.44%
TEGRETOL XR	100MG	4.16%	3.22%
TEGRETOL XR	200MG	4.08%	3.41%
TEGRETOL XR	400MG	3.61%	3.07%
TEMODAR	100MG	5.00%	4.52%
TEMODAR	20MG	4.43%	3.96%
TEMODAR	250MG	6.57%	5.96%
TEMODAR	5MG	4.33%	3.81%
TEQUIN	200MG	1.25%	1.03%
TEQUIN	400MG	4.29%	3.67%
TOPAMAX	100MG	4.67%	4.12%
TOPAMAX	15MG	5.04%	4.39%
TOPAMAX	200MG	4.28%	3.78%
TOPAMAX	25MG	4.56%	3.95%
TOPROL-XL	100MG	3.21%	2.62%
TOPROL-XL	25MG	1.62%	1.23%
TOPROL-XL	50MG	2.14%	1.64%
TRILEPTAL	150MG	4.84%	4.08%
TRILEPTAL	300MG	4.58%	3.96%
TRILEPTAL	300MG/	0.72%	0.60%
TRILEPTAL	600MG	4.41%	3.83%
TRIZIVIR	300-15	4.49%	3.99%
ULTRAM	50MG	2.77%	2.27%
VALTREX	500MG	4.37%	3.79%
VIDEX EC	200MG	4.76%	4.07%
VIDEX EC	250MG	4.85%	4.17%
VIDEX EC	400MG	4.71%	4.14%
VIRACEPT	250MG	4.27%	3.79%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 2-7 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
VIRACEPT	50MG/1	4.84%	4.22%
VIRAMUNE	200MG	3.78%	3.33%
VIRAMUNE	50MG/5	3.72%	3.24%
WELLBUTRIN SR	100MG	4.09%	3.57%
WELLBUTRIN SR	150MG	3.94%	3.42%
XELODA	150MG	4.45%	3.97%
XELODA	500MG	6.33%	5.76%
XENICAL	120MG	3.99%	3.25%
ZANTAC	150MG	3.89%	3.41%
ZANTAC	15MG/M	3.87%	3.23%
ZANTAC	300MG	5.30%	4.72%
ZESTORETIC	10-12.	4.16%	3.45%
ZESTORETIC	20-12.	4.11%	3.45%
ZESTORETIC	20-25M	4.19%	3.51%
ZESTRIL	10MG	4.81%	4.01%
ZESTRIL	2.5MG	4.27%	3.31%
ZESTRIL	20MG	4.61%	3.87%
ZESTRIL	30MG	4.43%	3.78%
ZESTRIL	40MG	4.63%	3.98%
ZESTRIL	5MG	4.70%	3.88%
ZIAGEN	20MG/M	5.08%	4.45%
ZIAGEN	300MG	4.60%	4.06%
ZOFRAN	4MG	3.90%	3.45%
ZOFRAN	4MG/5M	2.31%	2.00%
ZOFRAN	8MG	3.65%	3.27%
ZOFRAN ODT	4MG	5.40%	4.73%
ZOFRAN ODT	8MG	3.98%	3.49%
ZYPREXA	10MG	4.25%	3.77%
ZYPREXA	15MG	4.10%	3.64%
ZYPREXA	2.5MG	4.05%	3.55%
ZYPREXA	20MG	3.55%	3.15%
ZYPREXA	5MG	4.15%	3.65%
ZYPREXA	7.5MG	4.20%	3.71%
All	All	3.90%	3.33%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 7-12 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ACCOLATE	10MG	3.90%	3.32%
ACCOLATE	20MG	4.89%	4.23%
ACCUPRIL	10MG	4.35%	3.60%
ACCUPRIL	20MG	4.45%	3.70%
ACCUPRIL	40MG	4.33%	3.60%
ACCUPRIL	5MG	4.36%	3.60%
ACIPHEX	20MG	5.29%	4.67%
ACTONEL	30MG	5.31%	4.62%
ACTONEL	5MG	4.50%	3.88%
ACTOS	15MG	4.04%	3.52%
ACTOS	30MG	4.08%	3.61%
ACTOS	45MG	3.97%	3.52%
ADVAIR DISKUS	100-50	3.78%	3.32%
ADVAIR DISKUS	250-50	4.09%	3.63%
ADVAIR DISKUS	500-50	4.27%	3.81%
AGGRENOX	25-200	3.53%	3.05%
ALDARA	5%	4.24%	3.69%
ALLEGRA	180MG	5.26%	4.57%
ALLEGRA	30MG	5.88%	4.85%
ALLEGRA	60MG	4.61%	3.99%
ALLEGRA-D 12 HOUR	120-60	5.90%	5.08%
AMARYL	1MG	1.04%	0.67%
AMARYL	2MG	2.57%	1.88%
AMARYL	4MG	3.54%	2.93%
AMERGE	1MG	5.92%	5.20%
AMERGE	2.5MG	4.74%	4.18%
ARAVA	10MG	4.02%	3.57%
ARAVA	20MG	3.70%	3.30%
ARIMIDEX	1MG	3.88%	3.44%
ARTHROTEC	50MG-0	4.38%	3.78%
ARTHROTEC	75MG-0	4.60%	3.97%
ATACAND	16MG	4.46%	3.71%
ATACAND	32MG	4.31%	3.66%
ATACAND	4MG	3.91%	3.21%
ATACAND	8MG	3.69%	3.05%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 7-12 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ATROVENT	0.03%	2.31%	1.94%
ATROVENT	0.06%	1.82%	1.52%
ATROVENT	18MCG	3.58%	3.02%
AVALIDE	150-12	3.92%	3.32%
AVALIDE	300-12	3.58%	3.02%
AVAPRO	150MG	3.68%	3.08%
AVAPRO	300MG	3.18%	2.68%
AVAPRO	75MG	4.26%	3.53%
BIAXIN	250MG	0.53%	0.47%
BIAXIN	500MG	0.66%	0.58%
CARDIZEM CD	120MG	4.23%	3.53%
CARDIZEM CD	180MG	4.26%	3.74%
CARDIZEM CD	240MG	4.57%	3.98%
CARDIZEM CD	300MG	4.49%	3.94%
CASODEX	50MG	4.12%	3.70%
CATAPRES TTS	#1 2.5	2.56%	2.10%
CATAPRES TTS	#2 5MG	3.29%	2.81%
CATAPRES TTS	#3 7.5	3.46%	3.00%
CEFTIN	125MG/	0.56%	0.46%
CEFTIN	250MG	( 0.75%)	( 0.66%)
CEFTIN	250MG/	1.85%	1.57%
CEFTIN	500MG	0.85%	0.76%
CEFZIL	250MG	3.80%	3.27%
CEFZIL	500MG	4.15%	3.68%
CELEBREX	100MG	4.02%	3.43%
CELEBREX	200MG	4.09%	3.54%
CELEXA	10MG	4.54%	3.90%
CELEXA	20MG	4.22%	3.65%
CELEXA	40MG	4.26%	3.66%
CELLCEPT	200MG/	4.96%	4.49%
CELLCEPT	250MG	4.31%	3.83%
CELLCEPT	500MG	4.85%	4.33%
CIPRO	250MG	3.11%	2.64%
CIPRO	250MG/	1.62%	1.38%
CIPRO	500MG	3.14%	2.70%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.



**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 7-12 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
CIPRO	500MG/	1.23%	1.05%
CIPRO	750MG	2.28%	1.97%
CLARITIN REDITABS	10MG	6.41%	5.58%
CLARITIN-D 12HR	5MG	6.55%	5.65%
CLARITIN-D 24HR	240-10	7.47%	6.53%
CLOZARIL	100MG	4.19%	3.62%
CLOZARIL	25MG	3.76%	3.04%
COMBIVENT	18-103	2.53%	2.13%
COMBIVIR	300MG-	4.92%	4.38%
COUMADIN	10MG	4.22%	3.46%
COUMADIN	1MG	3.31%	2.69%
COUMADIN	2.5MG	3.23%	2.62%
COUMADIN	2MG	3.41%	2.79%
COUMADIN	3MG	2.61%	2.04%
COUMADIN	4MG	3.11%	2.45%
COUMADIN	5MG	2.97%	2.42%
COUMADIN	6MG	4.59%	3.73%
COUMADIN	7.5MG	4.28%	3.49%
COVERA-HS	180MG	3.86%	3.25%
COVERA-HS	240MG	4.00%	3.43%
DEPAKOTE	125MG	0.18%	0.15%
DEPAKOTE	250MG	0.28%	0.25%
DEPAKOTE	500MG	( 0.04%)	( 0.04%)
DILANTIN	100MG	4.54%	3.66%
DILANTIN	30MG	4.24%	2.88%
DILANTIN	50MG	4.21%	3.03%
DOVONEX	0.01%	4.85%	4.16%
DURAGESIC	100MCG	4.27%	3.76%
DURAGESIC	25MCG	3.97%	3.38%
DURAGESIC	50MCG	3.69%	3.20%
DURAGESIC	75MCG	4.12%	3.61%
ELOCON	0.10%	6.88%	5.10%
ENBREL	25MG	5.95%	5.34%
EPIVIR	10MG/M	5.93%	5.12%
EPIVIR	150MG	4.79%	4.22%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

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**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 7-12 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
EVISTA	60MG	3.88%	3.37%
EXELON	1.5MG	4.16%	3.58%
EXELON	2MG/ML	5.23%	4.62%
EXELON	3MG	4.04%	3.48%
EXELON	4.5MG	3.51%	3.04%
EXELON	6MG	3.47%	3.00%
FLONASE	0.05%	3.92%	3.39%
FLOVENT	110MCG	3.56%	3.07%
FLOVENT	220MCG	3.74%	3.28%
FLOVENT	44MCG	3.41%	2.90%
GLEEVEC	100MG	4.64%	4.13%
GLUCOPHAGE	1000MG	3.22%	2.83%
GLUCOPHAGE	500MG	4.75%	4.06%
GLUCOPHAGE	850MG	4.34%	3.80%
GLUCOVANCE	1.25-2	3.27%	2.66%
GLUCOVANCE	2.5-50	3.73%	3.14%
GLUCOVANCE	5.0-50	3.81%	3.23%
IMITREX	100MG	5.45%	4.79%
IMITREX	20MG	5.19%	4.59%
IMITREX	25MG	4.86%	4.31%
IMITREX	50MG	4.78%	4.23%
IMITREX	5MG	3.92%	3.43%
LAMICTAL	100MG	3.51%	3.11%
LAMICTAL	150MG	3.53%	3.12%
LAMICTAL	200MG	3.68%	3.24%
LAMICTAL	25MG	3.44%	3.07%
LAMICTAL	5MG	4.34%	3.88%
LAMISIL	1%	5.45%	4.85%
LAMISIL	250MG	5.44%	4.73%
LANOXIN	0.05MG	1.97%	1.59%
LESCOL	20MG	2.36%	2.00%
LESCOL	40MG	2.31%	1.95%
LESCOL XL	80MG	1.88%	1.61%
LEVAQUIN	250MG	3.95%	3.33%
LEVAQUIN	500MG	4.12%	3.55%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 7-12 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
LEVAQUIN	750MG	4.11%	3.56%
LIPITOR	10MG	4.19%	3.65%
LIPITOR	20MG	4.44%	3.93%
LIPITOR	40MG	5.02%	4.45%
LIPITOR	80MG	5.03%	4.46%
LOTENSIN	10MG	3.82%	3.11%
LOTENSIN	20MG	3.73%	3.05%
LOTENSIN	40MG	3.74%	3.04%
LOTENSIN	5MG	4.00%	3.23%
LOTREL	2.5-10	4.39%	3.75%
LOTREL	5-10MG	4.04%	3.45%
LOTREL	5-20MG	4.00%	3.44%
MACROBID	100MG	3.76%	2.99%
MOBIC	15MG	( 0.54%)	( 0.44%)
MOBIC	7.5MG	0.31%	0.26%
MONOPRIL	10MG	3.82%	3.12%
MONOPRIL	20MG	3.84%	3.17%
MONOPRIL	40MG	3.93%	3.22%
NASONEX	50 MCG	3.51%	3.02%
NEURONTIN	100MG	3.92%	3.24%
NEURONTIN	300MG	4.23%	3.68%
NEURONTIN	400MG	4.33%	3.79%
NEXIUM	20MG	4.58%	4.01%
NEXIUM	40MG	4.68%	4.11%
ORTHO-CYCLEN-28	0.25-0	1.02%	0.86%
ORTHO-NOV 7/7/7 28	N/A	2.45%	2.06%
ORTHO-TRI-CY-28	N/A	2.83%	2.36%
PLAVIX	75MG	4.55%	3.97%
PLENDIL	10MG	4.30%	3.72%
PLENDIL	2.5MG	4.02%	3.31%
PLENDIL	5MG	4.54%	3.77%
PREVACID	15MG	4.87%	4.30%
PREVACID	30MG	4.85%	4.29%
PRILOSEC	10MG	3.55%	3.15%
PRILOSEC	20MG	4.52%	4.04%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 7-12 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
PRILOSEC	40MG	4.81%	4.31%
PRINIVIL	10MG	3.17%	2.58%
PRINIVIL	2.5MG	1.08%	0.82%
PRINIVIL	20MG	2.93%	2.40%
PRINIVIL	40MG	2.00%	1.68%
PRINIVIL	5MG	2.54%	2.05%
PROTONIX	40MG	3.83%	3.35%
PROZAC	10MG	4.42%	3.94%
PROZAC	20MG	4.82%	4.30%
PROZAC	20MG/5	5.38%	4.90%
PROZAC	40MG	4.06%	3.61%
PROZAC WEEKLY	90MG	3.23%	2.78%
PULMICORT TURBUHAL	200MCG	4.24%	3.76%
RAZADYNE	12MG	4.01%	3.48%
RAZADYNE	4MG	3.41%	2.92%
RAZADYNE	8MG	3.51%	3.02%
REMERON	15MG	2.01%	1.70%
REMERON	30MG	2.85%	2.43%
REMERON	45MG	2.12%	1.80%
RISPERDAL	0.25MG	4.72%	4.11%
RISPERDAL	0.5MG	4.12%	3.57%
RISPERDAL	1MG	3.62%	3.14%
RISPERDAL	1MG/ML	3.76%	3.29%
RISPERDAL	2MG	3.79%	3.32%
RISPERDAL	3MG	3.29%	2.89%
RISPERDAL	4MG	3.09%	2.71%
SEREVENT	25MCG	3.47%	3.02%
SEREVENT DISKUS	50MCG	3.52%	3.07%
SEROQUEL	100MG	4.08%	3.56%
SEROQUEL	200MG	3.57%	3.14%
SEROQUEL	25MG	4.10%	3.52%
SEROQUEL	300MG	.	.
SERZONE	100MG	4.35%	3.76%
SERZONE	150MG	4.36%	3.79%
SERZONE	200MG	4.51%	3.90%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 7-12 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
SERZONE	250MG	4.44%	3.80%
SERZONE	50MG	4.85%	4.13%
SPORANOX	100MG	6.03%	5.21%
SPORANOX	10MG/M	3.36%	2.91%
STARLIX	120MG	3.75%	3.22%
STARLIX	60MG	3.22%	2.74%
SUSTIVA	100MG	2.19%	1.91%
SUSTIVA	200MG	3.55%	3.14%
TEGRETOL XR	100MG	4.27%	3.30%
TEGRETOL XR	200MG	3.70%	3.10%
TEGRETOL XR	400MG	3.91%	3.32%
TEMODAR	100MG	4.75%	4.29%
TEMODAR	20MG	2.80%	2.50%
TEMODAR	250MG	5.36%	4.87%
TEMODAR	5MG	3.48%	3.06%
TEQUIN	200MG	1.05%	0.86%
TEQUIN	400MG	4.77%	4.09%
TOPAMAX	100MG	3.90%	3.44%
TOPAMAX	15MG	4.79%	4.18%
TOPAMAX	200MG	3.72%	3.29%
TOPAMAX	25MG	3.72%	3.22%
TOPROL-XL	100MG	4.27%	3.49%
TOPROL-XL	25MG	2.60%	1.97%
TOPROL-XL	50MG	3.08%	2.36%
TRILEPTAL	150MG	4.76%	4.00%
TRILEPTAL	300MG	4.56%	3.95%
TRILEPTAL	300MG/	0.61%	0.51%
TRILEPTAL	600MG	4.33%	3.76%
TRIZIVIR	300-15	4.84%	4.31%
ULTRAM	50MG	0.10%	0.09%
VALTREX	500MG	4.70%	4.07%
VIDEX EC	200MG	7.67%	6.55%
VIDEX EC	250MG	4.97%	4.28%
VIDEX EC	400MG	4.45%	3.91%
VIRACEPT	250MG	4.47%	3.97%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 7-12 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
VIRACEPT	50MG/1	1.76%	1.53%
VIRAMUNE	200MG	4.30%	3.79%
VIRAMUNE	50MG/5	3.91%	3.40%
WELLBUTRIN SR	100MG	4.04%	3.53%
WELLBUTRIN SR	150MG	3.60%	3.12%
XELODA	150MG	4.25%	3.79%
XELODA	500MG	3.59%	3.27%
XENICAL	120MG	4.35%	3.54%
ZANTAC	150MG	3.16%	2.77%
ZANTAC	15MG/M	3.17%	2.64%
ZANTAC	300MG	4.79%	4.26%
ZESTORETIC	10-12.	3.42%	2.83%
ZESTORETIC	20-12.	3.07%	2.58%
ZESTORETIC	20-25M	3.08%	2.58%
ZESTRIL	10MG	4.70%	3.91%
ZESTRIL	2.5MG	2.91%	2.26%
ZESTRIL	20MG	4.48%	3.76%
ZESTRIL	30MG	3.19%	2.73%
ZESTRIL	40MG	4.71%	4.05%
ZESTRIL	5MG	4.56%	3.77%
ZIAGEN	20MG/M	2.19%	1.92%
ZIAGEN	300MG	5.03%	4.44%
ZOFRAN	4MG	5.21%	4.60%
ZOFRAN	4MG/5M	3.98%	3.45%
ZOFRAN	8MG	4.98%	4.46%
ZOFRAN ODT	4MG	5.76%	5.06%
ZOFRAN ODT	8MG	4.12%	3.61%
ZYPREXA	10MG	4.00%	3.54%
ZYPREXA	15MG	3.74%	3.32%
ZYPREXA	2.5MG	3.84%	3.36%
ZYPREXA	20MG	3.21%	2.84%
ZYPREXA	5MG	3.80%	3.35%
ZYPREXA	7.5MG	3.88%	3.43%
All	All	3.78%	3.23%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 13-18 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ACCOLATE	10MG	4.08%	3.48%
ACCOLATE	20MG	4.53%	3.92%
ACCUPRIL	10MG	3.68%	3.05%
ACCUPRIL	20MG	3.60%	2.99%
ACCUPRIL	40MG	3.65%	3.03%
ACCUPRIL	5MG	3.67%	3.03%
ACIPHEX	20MG	5.58%	4.92%
ACTONEL	30MG	5.22%	4.55%
ACTONEL	5MG	4.44%	3.83%
ACTOS	15MG	4.39%	3.83%
ACTOS	30MG	4.36%	3.86%
ACTOS	45MG	4.36%	3.87%
ADVAIR DISKUS	100-50	3.48%	3.06%
ADVAIR DISKUS	250-50	3.84%	3.41%
ADVAIR DISKUS	500-50	4.17%	3.73%
AGGRENOX	25-200	4.13%	3.57%
ALDARA	5%	4.45%	3.88%
ALLEGRA	180MG	5.45%	4.73%
ALLEGRA	30MG	6.49%	5.35%
ALLEGRA	60MG	5.17%	4.48%
ALLEGRA-D 12 HOUR	120-60	5.92%	5.10%
AMARYL	1MG	( 2.26%)	( 1.46%)
AMARYL	2MG	0.58%	0.42%
AMARYL	4MG	2.41%	1.99%
AMERGE	1MG	5.89%	5.18%
AMERGE	2.5MG	4.89%	4.31%
ARAVA	10MG	3.80%	3.37%
ARAVA	20MG	3.44%	3.07%
ARIMIDEX	1MG	4.50%	3.99%
ARTHROTEC	50MG-0	4.03%	3.49%
ARTHROTEC	75MG-0	3.93%	3.39%
ATACAND	16MG	4.20%	3.50%
ATACAND	32MG	3.90%	3.31%
ATACAND	4MG	3.14%	2.58%
ATACAND	8MG	3.15%	2.61%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 13-18 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ATROVENT	0.03%	2.04%	1.71%
ATROVENT	0.06%	0.87%	0.72%
ATROVENT	18MCG	2.98%	2.52%
AVALIDE	150-12	3.85%	3.26%
AVALIDE	300-12	3.62%	3.06%
AVAPRO	150MG	3.60%	3.01%
AVAPRO	300MG	3.06%	2.58%
AVAPRO	75MG	4.31%	3.57%
BIAXIN	250MG	0.09%	0.08%
BIAXIN	500MG	0.41%	0.36%
CARDIZEM CD	120MG	4.68%	3.91%
CARDIZEM CD	180MG	4.18%	3.66%
CARDIZEM CD	240MG	4.61%	4.02%
CARDIZEM CD	300MG	4.69%	4.11%
CASODEX	50MG	4.84%	4.34%
CATAPRES TTS	#1 2.5	2.44%	2.00%
CATAPRES TTS	#2 5MG	3.23%	2.76%
CATAPRES TTS	#3 7.5	3.50%	3.03%
CEFTIN	125MG/	5.59%	4.60%
CEFTIN	250MG	( 0.89%)	( 0.78%)
CEFTIN	250MG/	2.97%	2.53%
CEFTIN	500MG	2.61%	2.33%
CEFZIL	250MG	3.77%	3.24%
CEFZIL	500MG	4.52%	4.01%
CELEBREX	100MG	4.65%	3.97%
CELEBREX	200MG	4.49%	3.89%
CELEXA	10MG	3.95%	3.39%
CELEXA	20MG	3.82%	3.30%
CELEXA	40MG	3.76%	3.23%
CELLCEPT	200MG/	4.83%	4.38%
CELLCEPT	250MG	4.42%	3.92%
CELLCEPT	500MG	4.74%	4.23%
CIPRO	250MG	2.65%	2.24%
CIPRO	250MG/	0.43%	0.37%
CIPRO	500MG	2.81%	2.42%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.



**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 13-18 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
CIPRO	500MG/	1.14%	0.98%
CIPRO	750MG	2.44%	2.11%
CLARITIN REDITABS	10MG	6.87%	5.98%
CLARITIN-D 12HR	5MG	8.71%	7.51%
CLARITIN-D 24HR	240-10	8.29%	7.24%
CLOZARIL	100MG	3.27%	2.82%
CLOZARIL	25MG	2.23%	1.81%
COMBIVENT	18-103	2.48%	2.09%
COMBIVIR	300MG-	5.21%	4.65%
COUMADIN	10MG	3.95%	3.24%
COUMADIN	1MG	3.44%	2.80%
COUMADIN	2.5MG	3.40%	2.76%
COUMADIN	2MG	3.65%	2.98%
COUMADIN	3MG	2.87%	2.24%
COUMADIN	4MG	3.30%	2.60%
COUMADIN	5MG	3.40%	2.77%
COUMADIN	6MG	4.74%	3.85%
COUMADIN	7.5MG	4.19%	3.41%
COVERA-HS	180MG	3.14%	2.65%
COVERA-HS	240MG	2.83%	2.42%
DEPAKOTE	125MG	0.08%	0.07%
DEPAKOTE	250MG	( 0.03%)	( 0.02%)
DEPAKOTE	500MG	0.00%	0.00%
DILANTIN	100MG	4.36%	3.51%
DILANTIN	30MG	3.89%	2.64%
DILANTIN	50MG	3.72%	2.67%
DOVONEX	0.01%	4.81%	4.13%
DURAGESIC	100MCG	3.94%	3.47%
DURAGESIC	25MCG	3.67%	3.13%
DURAGESIC	50MCG	3.23%	2.80%
DURAGESIC	75MCG	3.79%	3.32%
ELOCON	0.10%	8.51%	6.31%
ENBREL	25MG	6.24%	5.60%
EPIVIR	10MG/M	5.11%	4.41%
EPIVIR	150MG	4.96%	4.38%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 13-18 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
EVISTA	60MG	4.17%	3.63%
EXELON	1.5MG	3.67%	3.16%
EXELON	2MG/ML	7.93%	7.00%
EXELON	3MG	3.88%	3.35%
EXELON	4.5MG	3.74%	3.24%
EXELON	6MG	3.38%	2.93%
FLONASE	0.05%	4.55%	3.93%
FLOVENT	110MCG	3.62%	3.12%
FLOVENT	220MCG	3.90%	3.42%
FLOVENT	44MCG	2.99%	2.54%
GLEEVEC	100MG	9.20%	8.18%
GLUCOPHAGE	1000MG	5.19%	4.56%
GLUCOPHAGE	500MG	6.03%	5.16%
GLUCOPHAGE	850MG	6.10%	5.35%
GLUCOVANCE	1.25-2	2.26%	1.83%
GLUCOVANCE	2.5-50	2.76%	2.32%
GLUCOVANCE	5.0-50	2.98%	2.53%
IMITREX	100MG	5.13%	4.50%
IMITREX	20MG	5.08%	4.49%
IMITREX	25MG	5.09%	4.51%
IMITREX	50MG	5.14%	4.55%
IMITREX	5MG	4.68%	4.09%
LAMICTAL	100MG	3.89%	3.44%
LAMICTAL	150MG	4.09%	3.61%
LAMICTAL	200MG	3.90%	3.44%
LAMICTAL	25MG	3.87%	3.44%
LAMICTAL	5MG	5.59%	5.00%
LAMISIL	1%	4.66%	4.15%
LAMISIL	250MG	6.15%	5.34%
LANOXIN	0.05MG	0.59%	0.48%
LESCOL	20MG	3.83%	3.24%
LESCOL	40MG	3.73%	3.16%
LESCOL XL	80MG	3.54%	3.03%
LEVAQUIN	250MG	3.32%	2.80%
LEVAQUIN	500MG	3.97%	3.43%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 13-18 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
LEVAQUIN	750MG	0.71%	0.62%
LIPITOR	10MG	3.77%	3.29%
LIPITOR	20MG	4.49%	3.98%
LIPITOR	40MG	5.04%	4.48%
LIPITOR	80MG	4.87%	4.31%
LOTENSIN	10MG	3.12%	2.54%
LOTENSIN	20MG	3.01%	2.46%
LOTENSIN	40MG	2.88%	2.35%
LOTENSIN	5MG	3.12%	2.52%
LOTREL	2.5-10	4.19%	3.58%
LOTREL	5-10MG	3.74%	3.20%
LOTREL	5-20MG	3.62%	3.11%
MACROBID	100MG	4.44%	3.53%
MOBIC	15MG	( 0.23%)	( 0.19%)
MOBIC	7.5MG	0.45%	0.38%
MONOPRIL	10MG	3.55%	2.89%
MONOPRIL	20MG	3.56%	2.93%
MONOPRIL	40MG	3.93%	3.22%
NASONEX	50 MCG	3.86%	3.32%
NEURONTIN	100MG	3.96%	3.28%
NEURONTIN	300MG	4.34%	3.77%
NEURONTIN	400MG	4.66%	4.08%
NEXIUM	20MG	4.64%	4.06%
NEXIUM	40MG	4.37%	3.84%
ORTHO-CYCLEN-28	0.25-0	( 0.41%)	( 0.34%)
ORTHO-NOV 7/7/7 28	N/A	0.74%	0.63%
ORTHO-TRI-CY-28	N/A	1.26%	1.05%
PLAVIX	75MG	4.40%	3.85%
PLENDIL	10MG	4.58%	3.96%
PLENDIL	2.5MG	3.27%	2.69%
PLENDIL	5MG	4.86%	4.04%
PREVACID	15MG	4.55%	4.02%
PREVACID	30MG	4.62%	4.08%
PRILOSEC	10MG	2.94%	2.62%
PRILOSEC	20MG	3.85%	3.44%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 13-18 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
PRILOSEC	40MG	5.43%	4.88%
PRINIVIL	10MG	3.17%	2.58%
PRINIVIL	2.5MG	0.35%	0.27%
PRINIVIL	20MG	2.60%	2.13%
PRINIVIL	40MG	2.27%	1.90%
PRINIVIL	5MG	2.55%	2.06%
PROTONIX	40MG	4.30%	3.75%
PROZAC	10MG	4.46%	3.97%
PROZAC	20MG	4.94%	4.41%
PROZAC	20MG/5	2.88%	2.63%
PROZAC	40MG	4.12%	3.67%
PROZAC WEEKLY	90MG	3.14%	2.70%
PULMICORT TURBUHAL	200MCG	4.01%	3.55%
RAZADYNE	12MG	3.67%	3.19%
RAZADYNE	4MG	3.04%	2.61%
RAZADYNE	8MG	3.30%	2.84%
REMERON	15MG	3.22%	2.72%
REMERON	30MG	3.81%	3.25%
REMERON	45MG	1.69%	1.44%
RISPERDAL	0.25MG	4.66%	4.06%
RISPERDAL	0.5MG	3.85%	3.34%
RISPERDAL	1MG	2.84%	2.47%
RISPERDAL	1MG/ML	3.78%	3.31%
RISPERDAL	2MG	3.27%	2.86%
RISPERDAL	3MG	2.66%	2.33%
RISPERDAL	4MG	2.34%	2.05%
SEREVENT	25MCG	7.29%	6.33%
SEREVENT DISKUS	50MCG	4.14%	3.61%
SEROQUEL	100MG	3.72%	3.24%
SEROQUEL	200MG	3.08%	2.71%
SEROQUEL	25MG	3.75%	3.22%
SEROQUEL	300MG	.	.
SERZONE	100MG	3.98%	3.45%
SERZONE	150MG	4.13%	3.59%
SERZONE	200MG	3.91%	3.38%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 13-18 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
SERZONE	250MG	4.09%	3.51%
SERZONE	50MG	4.13%	3.52%
SPORANOX	100MG	6.06%	5.24%
SPORANOX	10MG/M	4.22%	3.65%
STARLIX	120MG	3.58%	3.08%
STARLIX	60MG	3.11%	2.65%
SUSTIVA	100MG	4.75%	4.15%
SUSTIVA	200MG	3.83%	3.40%
TEGRETOL XR	100MG	4.08%	3.16%
TEGRETOL XR	200MG	4.28%	3.58%
TEGRETOL XR	400MG	3.82%	3.24%
TEMODAR	100MG	6.77%	6.11%
TEMODAR	20MG	5.50%	4.91%
TEMODAR	250MG	5.15%	4.68%
TEMODAR	5MG	4.14%	3.64%
TEQUIN	200MG	( 0.83%)	( 0.69%)
TEQUIN	400MG	5.02%	4.30%
TOPAMAX	100MG	2.81%	2.48%
TOPAMAX	15MG	3.42%	2.98%
TOPAMAX	200MG	2.54%	2.24%
TOPAMAX	25MG	3.00%	2.60%
TOPROL-XL	100MG	3.21%	2.62%
TOPROL-XL	25MG	1.24%	0.94%
TOPROL-XL	50MG	1.89%	1.45%
TRILEPTAL	150MG	4.32%	3.64%
TRILEPTAL	300MG	4.54%	3.93%
TRILEPTAL	300MG/	0.46%	0.39%
TRILEPTAL	600MG	4.57%	3.97%
TRIZIVIR	300-15	5.25%	4.67%
ULTRAM	50MG	( 1.21%)	( 0.99%)
VALTREX	500MG	9.67%	8.39%
VIDEX EC	200MG	4.44%	3.79%
VIDEX EC	250MG	4.03%	3.46%
VIDEX EC	400MG	3.81%	3.35%
VIRACEPT	250MG	4.84%	4.30%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 13-18 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
VIRACEPT	50MG/1	2.53%	2.20%
VIRAMUNE	200MG	4.00%	3.53%
VIRAMUNE	50MG/5	2.00%	1.74%
WELLBUTRIN SR	100MG	4.71%	4.12%
WELLBUTRIN SR	150MG	4.03%	3.50%
XELODA	150MG	4.30%	3.84%
XELODA	500MG	5.51%	5.01%
XENICAL	120MG	4.68%	3.81%
ZANTAC	150MG	3.31%	2.90%
ZANTAC	15MG/M	3.06%	2.55%
ZANTAC	300MG	3.40%	3.03%
ZESTORETIC	10-12.	4.29%	3.55%
ZESTORETIC	20-12.	4.29%	3.61%
ZESTORETIC	20-25M	4.55%	3.82%
ZESTRIL	10MG	4.34%	3.61%
ZESTRIL	2.5MG	2.09%	1.62%
ZESTRIL	20MG	3.88%	3.26%
ZESTRIL	30MG	4.03%	3.44%
ZESTRIL	40MG	3.96%	3.41%
ZESTRIL	5MG	4.39%	3.63%
ZIAGEN	20MG/M	2.15%	1.89%
ZIAGEN	300MG	5.24%	4.62%
ZOFRAN	4MG	5.11%	4.51%
ZOFRAN	4MG/5M	2.54%	2.20%
ZOFRAN	8MG	5.18%	4.64%
ZOFRAN ODT	4MG	4.83%	4.24%
ZOFRAN ODT	8MG	3.65%	3.20%
ZYPREXA	10MG	3.69%	3.27%
ZYPREXA	15MG	3.54%	3.14%
ZYPREXA	2.5MG	3.70%	3.24%
ZYPREXA	20MG	2.75%	2.44%
ZYPREXA	5MG	3.66%	3.22%
ZYPREXA	7.5MG	3.55%	3.13%
All	All	3.83%	3.27%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 19-24 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ACCOLATE	10MG	4.92%	4.19%
ACCOLATE	20MG	4.71%	4.07%
ACCUPRIL	10MG	3.67%	3.05%
ACCUPRIL	20MG	3.59%	2.99%
ACCUPRIL	40MG	3.62%	3.01%
ACCUPRIL	5MG	3.17%	2.61%
ACIPHEX	20MG	4.90%	4.32%
ACTONEL	30MG	5.32%	4.63%
ACTONEL	5MG	4.63%	3.99%
ACTOS	15MG	4.48%	3.92%
ACTOS	30MG	4.33%	3.84%
ACTOS	45MG	4.16%	3.69%
ADVAIR DISKUS	100-50	4.39%	3.86%
ADVAIR DISKUS	250-50	4.79%	4.25%
ADVAIR DISKUS	500-50	5.08%	4.53%
AGGRENOX	25-200	4.08%	3.53%
ALDARA	5%	4.06%	3.54%
ALLEGRA	180MG	5.88%	5.10%
ALLEGRA	30MG	7.42%	6.12%
ALLEGRA	60MG	5.60%	4.85%
ALLEGRA-D 12 HOUR	120-60	6.72%	5.78%
AMARYL	1MG	( 2.81%)	( 1.81%)
AMARYL	2MG	0.67%	0.49%
AMARYL	4MG	3.24%	2.68%
AMERGE	1MG	5.49%	4.82%
AMERGE	2.5MG	4.06%	3.57%
ARAVA	10MG	3.62%	3.21%
ARAVA	20MG	3.68%	3.28%
ARIMIDEX	1MG	4.37%	3.88%
ARTHROTEC	50MG-0	4.89%	4.23%
ARTHROTEC	75MG-0	4.80%	4.14%
ATACAND	16MG	4.75%	3.96%
ATACAND	32MG	4.61%	3.91%
ATACAND	4MG	2.73%	2.25%
ATACAND	8MG	3.35%	2.77%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 19-24 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
ATROVENT	0.03%	1.79%	1.50%
ATROVENT	0.06%	( 0.00%)	( 0.00%)
ATROVENT	18MCG	2.26%	1.92%
AVALIDE	150-12	4.06%	3.44%
AVALIDE	300-12	3.82%	3.22%
AVAPRO	150MG	4.27%	3.57%
AVAPRO	300MG	3.72%	3.13%
AVAPRO	75MG	3.88%	3.22%
BIAXIN	250MG	( 0.17%)	( 0.15%)
BIAXIN	500MG	0.09%	0.08%
CARDIZEM CD	120MG	6.25%	5.23%
CARDIZEM CD	180MG	5.27%	4.62%
CARDIZEM CD	240MG	5.57%	4.85%
CARDIZEM CD	300MG	5.33%	4.67%
CASODEX	50MG	4.76%	4.27%
CATAPRES TTS	#1 2.5	2.17%	1.78%
CATAPRES TTS	#2 5MG	3.13%	2.67%
CATAPRES TTS	#3 7.5	3.33%	2.89%
CEFTIN	125MG/	5.01%	4.12%
CEFTIN	250MG	( 0.64%)	( 0.56%)
CEFTIN	250MG/	2.96%	2.52%
CEFTIN	500MG	1.31%	1.17%
CEFZIL	250MG	3.86%	3.32%
CEFZIL	500MG	4.39%	3.90%
CELEBREX	100MG	4.24%	3.62%
CELEBREX	200MG	4.13%	3.57%
CELEXA	10MG	4.73%	4.07%
CELEXA	20MG	4.19%	3.62%
CELEXA	40MG	4.10%	3.53%
CELLCEPT	200MG/	6.90%	6.26%
CELLCEPT	250MG	4.38%	3.88%
CELLCEPT	500MG	4.82%	4.30%
CIPRO	250MG	2.77%	2.35%
CIPRO	250MG/	( 1.21%)	( 1.03%)
CIPRO	500MG	2.74%	2.36%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.



**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 19-24 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
CIPRO	500MG/	1.46%	1.25%
CIPRO	750MG	2.90%	2.51%
CLARITIN REDITABS	10MG	2.83%	2.46%
CLARITIN-D 12HR	5MG	3.96%	3.41%
CLARITIN-D 24HR	240-10	5.07%	4.43%
CLOZARIL	100MG	2.53%	2.18%
CLOZARIL	25MG	0.72%	0.58%
COMBIVENT	18-103	1.91%	1.60%
COMBIVIR	300MG-	4.06%	3.62%
COUMADIN	10MG	3.98%	3.27%
COUMADIN	1MG	3.80%	3.10%
COUMADIN	2.5MG	3.79%	3.07%
COUMADIN	2MG	4.43%	3.62%
COUMADIN	3MG	3.45%	2.70%
COUMADIN	4MG	3.44%	2.72%
COUMADIN	5MG	4.13%	3.36%
COUMADIN	6MG	4.64%	3.77%
COUMADIN	7.5MG	4.55%	3.71%
COVERA-HS	180MG	6.62%	5.57%
COVERA-HS	240MG	5.66%	4.84%
DEPAKOTE	125MG	( 0.47%)	( 0.41%)
DEPAKOTE	250MG	( 0.02%)	( 0.02%)
DEPAKOTE	500MG	( 0.09%)	( 0.08%)
DILANTIN	100MG	4.55%	3.67%
DILANTIN	30MG	3.55%	2.41%
DILANTIN	50MG	3.00%	2.16%
DOVONEX	0.01%	4.63%	3.96%
DURAGESIC	100MCG	3.58%	3.15%
DURAGESIC	25MCG	3.67%	3.13%
DURAGESIC	50MCG	3.29%	2.85%
DURAGESIC	75MCG	3.42%	3.00%
ELOCON	0.10%	8.65%	6.41%
ENBREL	25MG	5.87%	5.27%
EPIVIR	10MG/M	4.49%	3.88%
EPIVIR	150MG	3.60%	3.18%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 19-24 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
EVISTA	60MG	3.54%	3.08%
EXELON	1.5MG	4.48%	3.86%
EXELON	2MG/ML	7.35%	6.49%
EXELON	3MG	4.63%	3.99%
EXELON	4.5MG	4.73%	4.09%
EXELON	6MG	4.56%	3.94%
FLONASE	0.05%	4.21%	3.64%
FLOVENT	110MCG	3.01%	2.60%
FLOVENT	220MCG	3.30%	2.90%
FLOVENT	44MCG	2.21%	1.88%
GLEEVEC	100MG	11.70%	10.41%
GLUCOPHAGE	1000MG	5.03%	4.41%
GLUCOPHAGE	500MG	5.82%	4.98%
GLUCOPHAGE	850MG	5.92%	5.19%
GLUCOVANCE	1.25-2	2.21%	1.79%
GLUCOVANCE	2.5-50	2.98%	2.51%
GLUCOVANCE	5.0-50	3.25%	2.75%
IMITREX	100MG	4.39%	3.86%
IMITREX	20MG	4.00%	3.54%
IMITREX	25MG	4.43%	3.94%
IMITREX	50MG	5.21%	4.62%
IMITREX	5MG	3.04%	2.65%
LAMICTAL	100MG	4.23%	3.75%
LAMICTAL	150MG	4.25%	3.75%
LAMICTAL	200MG	4.30%	3.79%
LAMICTAL	25MG	4.01%	3.56%
LAMICTAL	5MG	4.70%	4.20%
LAMISIL	1%	6.01%	5.35%
LAMISIL	250MG	5.88%	5.11%
LANOXIN	0.05MG	0.09%	0.07%
LESCOL	20MG	4.43%	3.76%
LESCOL	40MG	4.35%	3.68%
LESCOL XL	80MG	3.73%	3.19%
LEVAQUIN	250MG	4.78%	4.03%
LEVAQUIN	500MG	4.90%	4.22%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

*Subject to Protective Order*

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 19-24 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
LEVAQUIN	750MG	6.15%	5.33%
LIPITOR	10MG	4.08%	3.56%
LIPITOR	20MG	4.70%	4.17%
LIPITOR	40MG	5.28%	4.68%
LIPITOR	80MG	5.22%	4.62%
LOTENSIN	10MG	3.77%	3.07%
LOTENSIN	20MG	3.90%	3.19%
LOTENSIN	40MG	3.67%	2.99%
LOTENSIN	5MG	4.54%	3.67%
LOTREL	2.5-10	5.22%	4.45%
LOTREL	5-10MG	4.84%	4.14%
LOTREL	5-20MG	4.66%	4.00%
MACROBID	100MG	3.59%	2.85%
MOBIC	15MG	( 0.32%)	( 0.27%)
MOBIC	7.5MG	1.02%	0.85%
MONOPRIL	10MG	3.34%	2.73%
MONOPRIL	20MG	3.45%	2.84%
MONOPRIL	40MG	3.70%	3.03%
NASONEX	50 MCG	3.17%	2.73%
NEURONTIN	100MG	3.75%	3.10%
NEURONTIN	300MG	4.16%	3.62%
NEURONTIN	400MG	4.23%	3.70%
NEXIUM	20MG	4.50%	3.95%
NEXIUM	40MG	4.34%	3.81%
ORTHO-CYCLEN-28	0.25-0	1.00%	0.84%
ORTHO-NOV 7/7/7 28	N/A	1.58%	1.33%
ORTHO-TRI-CY-28	N/A	0.28%	0.23%
PLAVIX	75MG	4.22%	3.69%
PLENDIL	10MG	4.54%	3.93%
PLENDIL	2.5MG	3.42%	2.82%
PLENDIL	5MG	4.30%	3.57%
PREVACID	15MG	5.05%	4.46%
PREVACID	30MG	4.97%	4.39%
PRILOSEC	10MG	( 1.28%)	( 1.14%)
PRILOSEC	20MG	2.94%	2.63%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 19-24 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
PRILOSEC	40MG	5.10%	4.57%
PRINIVIL	10MG	4.03%	3.28%
PRINIVIL	2.5MG	0.10%	0.07%
PRINIVIL	20MG	3.48%	2.86%
PRINIVIL	40MG	3.66%	3.07%
PRINIVIL	5MG	3.18%	2.57%
PROTONIX	40MG	4.70%	4.11%
PROZAC	10MG	.	.
PROZAC	20MG	.	.
PROZAC	20MG/5	.	.
PROZAC	40MG	.	.
PROZAC WEEKLY	90MG	3.57%	3.07%
PULMICORT TURBUHAL	200MCG	3.87%	3.43%
RAZADYNE	12MG	5.35%	4.64%
RAZADYNE	4MG	3.86%	3.31%
RAZADYNE	8MG	4.16%	3.58%
REMERON	15MG	1.57%	1.33%
REMERON	30MG	1.40%	1.20%
REMERON	45MG	1.19%	1.02%
RISPERDAL	0.25MG	4.50%	3.92%
RISPERDAL	0.5MG	4.02%	3.49%
RISPERDAL	1MG	3.47%	3.01%
RISPERDAL	1MG/ML	4.09%	3.58%
RISPERDAL	2MG	3.79%	3.31%
RISPERDAL	3MG	3.03%	2.66%
RISPERDAL	4MG	2.79%	2.45%
SEREVENT	25MCG	7.95%	6.91%
SEREVENT DISKUS	50MCG	3.36%	2.93%
SEROQUEL	100MG	2.87%	2.50%
SEROQUEL	200MG	2.15%	1.89%
SEROQUEL	25MG	2.67%	2.29%
SEROQUEL	300MG	.	.
SERZONE	100MG	2.11%	1.83%
SERZONE	150MG	2.02%	1.76%
SERZONE	200MG	1.95%	1.69%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 19-24 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
SERZONE	250MG	1.83%	1.57%
SERZONE	50MG	3.90%	3.32%
SPORANOX	100MG	7.25%	6.26%
SPORANOX	10MG/M	3.17%	2.75%
STARLIX	120MG	3.16%	2.72%
STARLIX	60MG	3.12%	2.66%
SUSTIVA	100MG	.	.
SUSTIVA	200MG	.	.
TEGRETOL XR	100MG	3.43%	2.65%
TEGRETOL XR	200MG	3.35%	2.80%
TEGRETOL XR	400MG	3.36%	2.85%
TEMODAR	100MG	6.04%	5.46%
TEMODAR	20MG	5.59%	4.98%
TEMODAR	250MG	4.91%	4.46%
TEMODAR	5MG	4.15%	3.64%
TEQUIN	200MG	4.43%	3.64%
TEQUIN	400MG	5.64%	4.83%
TOPAMAX	100MG	4.08%	3.60%
TOPAMAX	15MG	3.92%	3.41%
TOPAMAX	200MG	3.63%	3.21%
TOPAMAX	25MG	3.94%	3.41%
TOPROL-XL	100MG	3.02%	2.46%
TOPROL-XL	25MG	0.87%	0.66%
TOPROL-XL	50MG	1.62%	1.24%
TRILEPTAL	150MG	3.23%	2.72%
TRILEPTAL	300MG	3.78%	3.27%
TRILEPTAL	300MG/	0.04%	0.04%
TRILEPTAL	600MG	3.31%	2.87%
TRIZIVIR	300-15	3.95%	3.52%
ULTRAM	50MG	0.29%	0.24%
VALTREX	500MG	14.41%	12.50%
VIDEX EC	200MG	2.31%	1.98%
VIDEX EC	250MG	2.94%	2.53%
VIDEX EC	400MG	3.61%	3.18%
VIRACEPT	250MG	4.72%	4.19%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**Calculation of Scheme Impact**  
**For Selected Appendix-A Drugs and Strengths (278)**  
**Comparing the Average of the 6 Months Prior to Date of Markup**  
**to the Average of the 19-24 Months After the Date of Markup**

<b>Drug</b>	<b>Strength</b>	<b>Change in AA/WAC</b>	<b>Percent Increase in AA/WAC</b>
VIRACEPT	50MG/1	3.24%	2.82%
VIRAMUNE	200MG	4.06%	3.59%
VIRAMUNE	50MG/5	2.43%	2.11%
WELLBUTRIN SR	100MG	4.19%	3.66%
WELLBUTRIN SR	150MG	3.46%	3.00%
XELODA	150MG	5.72%	5.10%
XELODA	500MG	6.55%	5.96%
XENICAL	120MG	3.57%	2.91%
ZANTAC	150MG	3.53%	3.09%
ZANTAC	15MG/M	3.89%	3.25%
ZANTAC	300MG	4.00%	3.55%
ZESTORETIC	10-12.	5.08%	4.21%
ZESTORETIC	20-12.	4.78%	4.02%
ZESTORETIC	20-25M	4.81%	4.03%
ZESTRIL	10MG	4.63%	3.86%
ZESTRIL	2.5MG	2.04%	1.58%
ZESTRIL	20MG	4.20%	3.52%
ZESTRIL	30MG	4.19%	3.58%
ZESTRIL	40MG	4.64%	3.99%
ZESTRIL	5MG	4.25%	3.51%
ZIAGEN	20MG/M	2.98%	2.62%
ZIAGEN	300MG	3.81%	3.36%
ZOFRAN	4MG	4.38%	3.87%
ZOFRAN	4MG/5M	3.76%	3.26%
ZOFRAN	8MG	4.95%	4.43%
ZOFRAN ODT	4MG	5.60%	4.91%
ZOFRAN ODT	8MG	4.91%	4.31%
ZYPREXA	10MG	.	.
ZYPREXA	15MG	.	.
ZYPREXA	2.5MG	.	.
ZYPREXA	20MG	.	.
ZYPREXA	5MG	.	.
ZYPREXA	7.5MG	.	.
All	All	3.99%	3.40%

<sup>1</sup>Note: This list consists of drugs and strengths used in the regression analysis.

**ATTACHMENT F: EXHIBIT F.2**

**AA as Percentage of AWP** $\beta_0$  and  $\beta_1$ *Filtered Drugs and Strengths***The REG Procedure****Model: MODEL1****Dependent Variable: aapct\_awp**

<b>Number of Observations Read</b>	11849
<b>Number of Observations Used</b>	11849

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	1	0.00356	0.00356	0.95	0.3294
<b>Error</b>	11847	44.38294	0.00375		
<b>Corrected Total</b>	11848	44.38650			

<b>Root MSE</b>	0.06121	<b>R-Square</b>	0.0001
<b>Dependent Mean</b>	0.96933	<b>Adj R-Sq</b>	-0.0000
<b>Coeff Var</b>	6.31439		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
<b>Intercept</b>	1	0.97031	0.00115	847.07	<.0001
<b>trend</b>	1	-0.00004635	0.00004752	-0.98	0.3294



**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Number of Observations Read	11849
Number of Observations Used	11849

**Note:** No intercept in model. R-Square is redefined.

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	578	11170	19.32590	29470.7	<.0001
Error	11271	7.39115	0.00065577		
Uncorrected Total	11849	11178			

Root MSE	0.02561	R-Square	0.9993
Dependent Mean	0.96933	Adj R-Sq	0.9993
Coeff Var	2.64181		

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy)<sub>i</sub>,  $\beta_{3i}$  (Drug-Dummy)<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d1	DD ACCUTANE 10MG	1	0.93867	0.00815	115.21	<.0001
d2	DD ACCUTANE 20MG	1	0.92966	0.00815	114.11	<.0001
d3	DD ACCUTANE 40MG	1	0.92112	0.00815	113.06	<.0001
d4	DD ADALAT CC 30MG	1	0.97041	0.00815	119.11	<.0001
d5	DD ADALAT CC 60MG	1	0.94005	0.00815	115.38	<.0001
d6	DD ADALAT CC 90MG	1	0.94765	0.00815	116.32	<.0001
d7	DD ALESSE-28 0.1-0.	1	0.97494	0.00815	119.67	<.0001
d8	DD ALPHAGAN 0.20%	1	0.96896	0.00815	118.93	<.0001
d9	DD ALTACE 1.25MG	1	1.02667	0.00815	126.02	<.0001
d10	DD ALTACE 10MG	1	0.97047	0.00815	119.12	<.0001
d11	DD ALTACE 2.5MG	1	1.00310	0.00815	123.12	<.0001
d12	DD ALTACE 5MG	1	0.98979	0.00815	121.49	<.0001
d13	DD AMOXIL 200MG	1	1.25581	0.00815	154.14	<.0001
d14	DD AMOXIL 200MG/	1	1.34301	0.00815	164.84	<.0001
d15	DD AMOXIL 400MG	1	1.17395	0.00815	144.09	<.0001
d16	DD AMOXIL 400MG/	1	1.25603	0.00815	154.17	<.0001
d17	DD AMOXIL 875MG	1	1.14042	0.00815	139.98	<.0001
d18	DD ARICEPT 10MG	1	0.95223	0.00815	116.88	<.0001
d19	DD ARICEPT 5MG	1	0.95682	0.00815	117.44	<.0001
d20	DD ASTELIN 137MCG	1	0.94358	0.00815	115.82	<.0001
d21	DD ATIVAN 0.5MG	1	1.00231	0.00815	123.03	<.0001
d22	DD ATIVAN 1MG	1	0.98145	0.00815	120.46	<.0001
d23	DD ATIVAN 2MG	1	0.96469	0.00815	118.41	<.0001
d24	DD AUGMENTIN 125MG	1	1.04628	0.00815	128.42	<.0001
d25	DD AUGMENTIN 125MG/	1	1.05485	0.00815	129.47	<.0001
d26	DD AUGMENTIN 200MG	1	0.99197	0.00815	121.76	<.0001
d27	DD AUGMENTIN 200MG/	1	1.01755	0.00815	124.90	<.0001
d28	DD AUGMENTIN 250MG	1	0.96013	0.00815	117.85	<.0001
d29	DD AUGMENTIN 250MG/	1	0.98475	0.00815	120.87	<.0001
d30	DD AUGMENTIN 400MG-	1	0.95584	0.00815	117.32	<.0001
d31	DD AUGMENTIN 400MG/	1	0.96195	0.00815	118.07	<.0001

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d32	DD AUGMENTIN 500MG	1	0.95932	0.00815	117.75	<.0001
d33	DD AUGMENTIN 875MG	1	0.94713	0.00815	116.25	<.0001
d34	DD AVANDIA 2MG	1	0.96054	0.00815	117.90	<.0001
d35	DD AVANDIA 4MG	1	0.94769	0.00815	116.32	<.0001
d36	DD AVANDIA 8MG	1	0.93457	0.00815	114.71	<.0001
d37	DD AVELOX 400MG	1	0.96057	0.00815	117.90	<.0001
d38	DD BACTROBAN 2%	1	1.10978	0.00815	136.22	<.0001
d39	DD BETOPTIC S 0.25%	1	0.96265	0.00815	118.16	<.0001
d40	DD BIAVIN XL 500MG	1	0.95290	0.00815	116.96	<.0001
d41	DD BIAVIN XL-PAC 500MG	1	0.96842	0.00815	118.87	<.0001
d42	DD BUSPAR 10MG	1	0.96114	0.00815	117.97	<.0001
d43	DD BUSPAR 15MG	1	0.94669	0.00815	116.20	<.0001
d44	DD BUSPAR 30MG	1	0.93407	0.00815	114.65	<.0001
d45	DD BUSPAR 5MG	1	1.00034	0.00815	122.78	<.0001
d46	DD CIPRO HC OTIC 0.2-1%	1	0.96525	0.00815	118.48	<.0001
d47	DD CLEOCIN VAGINAL 100MG	1	1.00548	0.00815	123.41	<.0001
d48	DD CLEOCIN VAGINAL 2%	1	1.00521	0.00815	123.38	<.0001
d49	DD COREG 12.5MG	1	0.95208	0.00815	116.86	<.0001
d50	DD COREG 25MG	1	0.94542	0.00815	116.04	<.0001
d51	DD COREG 3.125M	1	0.96125	0.00815	117.99	<.0001
d52	DD COREG 6.25MG	1	0.95488	0.00815	117.20	<.0001
d53	DD COSOPT .5-5ML	1	0.95992	0.00815	117.82	<.0001
d54	DD COZAAR 100MG	1	0.96574	0.00815	118.54	<.0001
d55	DD COZAAR 25MG	1	0.97948	0.00815	120.22	<.0001
d56	DD COZAAR 50MG	1	0.97528	0.00815	119.71	<.0001
d57	DD CRIXIVAN 200MG	1	0.92321	0.00815	113.32	<.0001
d58	DD CRIXIVAN 333MG	1	0.95457	0.00815	117.17	<.0001
d59	DD CRIXIVAN 400MG	1	0.92969	0.00815	114.11	<.0001
d60	DD CUTIVATE 0.01%	1	1.14884	0.00815	141.01	<.0001
d61	DD CUTIVATE 0.05%	1	0.96680	0.00815	118.67	<.0001
d62	DD DDAVP 0.1MG	1	0.95923	0.00815	117.74	<.0001

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d63	DD DDAVP 0.1MG/	1	0.93630	0.00815	114.92	<.0001
d64	DD DDAVP 0.2MG	1	0.94072	0.00815	115.47	<.0001
d65	DD DDAVP 4MCG/M	1	0.97022	0.00815	119.09	<.0001
d66	DD DEPAKOTE ER 500MG	1	0.96067	0.00815	117.91	<.0001
d67	DD DEPO-PROVERA 150MG/	1	1.00357	0.00815	123.18	<.0001
d68	DD DEPO-PROVERA 400MG/	1	0.98889	0.00815	121.38	<.0001
d69	DD DETROL 1MG	1	0.95601	0.00815	117.34	<.0001
d70	DD DETROL 2MG	1	0.94959	0.00815	116.55	<.0001
d71	DD DETROL LA 2MG	1	0.96605	0.00815	118.57	<.0001
d72	DD DETROL LA 4MG	1	0.95759	0.00815	117.54	<.0001
d73	DD DEXEDRINE 10MG	1	0.99755	0.00815	122.44	<.0001
d74	DD DEXEDRINE 15MG	1	0.99325	0.00815	121.91	<.0001
d75	DD DEXEDRINE 5MG	1	1.38434	0.00815	169.92	<.0001
d76	DD DIFLUCAN 100MG	1	0.97426	0.00815	119.58	<.0001
d77	DD DIFLUCAN 10MG/M	1	1.05628	0.00815	129.65	<.0001
d78	DD DIFLUCAN 40MG/M	1	0.96688	0.00815	118.68	<.0001
d79	DD DIFLUCAN 50MG	1	0.97316	0.00815	119.45	<.0001
d80	DD DIOVAN HCT 160-12	1	0.97198	0.00815	119.30	<.0001
d81	DD DIOVAN HCT 80-12.	1	0.97500	0.00815	119.67	<.0001
d82	DD DITROPAN XL 10MG	1	0.95542	0.00815	117.27	<.0001
d83	DD DITROPAN XL 15MG	1	0.95595	0.00815	117.34	<.0001
d84	DD DITROPAN XL 5MG	1	0.95882	0.00815	117.69	<.0001
d85	DD DOSTINEX 0.5MG	1	0.93061	0.00815	114.22	<.0001
d86	DD EFFEXOR 100MG	1	0.94903	0.00815	116.49	<.0001
d87	DD EFFEXOR 25MG	1	0.96651	0.00815	118.63	<.0001
d88	DD EFFEXOR 37.5MG	1	0.96955	0.00815	119.00	<.0001
d89	DD EFFEXOR 50MG	1	0.95742	0.00815	117.52	<.0001
d90	DD EFFEXOR 75MG	1	0.96278	0.00815	118.17	<.0001
d91	DD EFFEXOR XR 150MG	1	0.94633	0.00815	116.15	<.0001
d92	DD EFFEXOR XR 37.5MG	1	0.94673	0.00815	116.20	<.0001
d93	DD EFFEXOR XR 75MG	1	0.94259	0.00815	115.69	<.0001

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d94	DD EFUDEX 2%	1	0.95334	0.00815	117.01	<.0001
d95	DD EFUDEX 5%	1	0.97971	0.00815	120.25	<.0001
d96	DD EPOGEN 10MU/1	1	0.96396	0.00815	118.32	<.0001
d97	DD EPOGEN 2000U/	1	0.99439	0.00815	122.05	<.0001
d98	DD EPOGEN 20MU/2	1	0.81950	0.00815	100.59	<.0001
d99	DD EPOGEN 3000U/	1	0.95469	0.00815	117.18	<.0001
d100	DD EPOGEN 4000U/	1	0.96682	0.00815	118.67	<.0001
d101	DD FLOMAX 0.4MG	1	0.97002	0.00815	119.06	<.0001
d102	DD FOLLISTIM 75IU	1	0.83175	0.00815	102.09	<.0001
d103	DD FOSAMAX 10MG	1	0.94683	0.00815	116.22	<.0001
d104	DD FOSAMAX 35MG	1	0.95873	0.00815	117.68	<.0001
d105	DD FOSAMAX 40MG	1	1.02295	0.00815	125.56	<.0001
d106	DD FOSAMAX 5MG	1	0.94906	0.00815	116.49	<.0001
d107	DD FOSAMAX 70MG	1	0.95663	0.00815	117.42	<.0001
d108	DD GABITRIL 12MG	1	0.95028	0.00815	116.64	<.0001
d109	DD GABITRIL 16MG	1	0.94499	0.00815	115.99	<.0001
d110	DD GABITRIL 2MG	1	0.96492	0.00815	118.44	<.0001
d111	DD GABITRIL 4MG	1	0.95590	0.00815	117.33	<.0001
d112	DD GEODON 20MG	1	0.94112	0.00815	115.51	<.0001
d113	DD GEODON 40MG	1	0.94305	0.00815	115.75	<.0001
d114	DD GEODON 60MG	1	0.95023	0.00815	116.63	<.0001
d115	DD GEODON 80MG	1	0.95098	0.00815	116.72	<.0001
d116	DD GLUCOPHAGE XR 500MG	1	0.95376	0.00815	117.07	<.0001
d117	DD GLUCOTROL XL 10MG	1	1.02336	0.00815	125.61	<.0001
d118	DD GLUCOTROL XL 2.5MG	1	1.22907	0.00815	150.86	<.0001
d119	DD GONAL-F 1200IU	1	0.81918	0.00815	100.55	<.0001
d120	DD GONAL-F 75IU	1	0.85841	0.00815	105.36	<.0001
d121	DD HUMALOG PEN 300U/3	1	0.93306	0.00815	114.53	<.0001
d122	DD HUMALOG PEN MIX 75 100U/M	1	0.93145	0.00815	114.33	<.0001
d123	DD HUMULIN N 100U/M	1	0.95500	0.00815	117.22	<.0001
d124	DD HUMULIN R 500U/M	1	0.89598	0.00815	109.97	<.0001

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d125	DD HYZAAR 100-25	1	0.96850	0.00815	118.88	<.0001
d126	DD HYZAAR 50-12.	1	0.97672	0.00815	119.88	<.0001
d127	DD INDERAL LA 120MG	1	0.96605	0.00815	118.57	<.0001
d128	DD INDERAL LA 160MG	1	0.95912	0.00815	117.72	<.0001
d129	DD INDERAL LA 60MG	1	0.99199	0.00815	121.76	<.0001
d130	DD INDERAL LA 80MG	1	0.97789	0.00815	120.03	<.0001
d131	DD INTRON-A 10MMU/	1	0.90927	0.00815	111.61	<.0001
d132	DD INTRON-A 18MMU	1	0.97159	0.00815	119.26	<.0001
d133	DD INTRON-A 50MMU	1	0.91554	0.00815	112.38	<.0001
d134	DD INTRON-A 6MMU/1	1	0.90939	0.00815	111.62	<.0001
d135	DD KALETRA 133.3-	1	0.94355	0.00815	115.81	<.0001
d136	DD KALETRA 400-10	1	0.94549	0.00815	116.05	<.0001
d137	DD KEPPRA 250MG	1	0.94482	0.00815	115.97	<.0001
d138	DD KEPPRA 500MG	1	0.94842	0.00815	116.41	<.0001
d139	DD KEPPRA 750MG	1	0.94695	0.00815	116.23	<.0001
d140	DD LANTUS 100U/M	1	0.95835	0.00815	117.63	<.0001
d141	DD LO/OVRAL-28 0.3-0.	1	0.97054	0.00815	119.13	<.0001
d142	DD LOVENOX 100MG	1	0.92199	0.00815	113.17	<.0001
d143	DD LOVENOX 30MG/0	1	0.93553	0.00815	114.83	<.0001
d144	DD LOVENOX 80MG/0	1	0.80762	0.00815	99.13	<.0001
d145	DD LUPRON DEPOT 3.75MG	1	0.93080	0.00815	114.25	<.0001
d146	DD LUPRON DEPOT 7.5MG	1	0.94615	0.00815	116.13	<.0001
d147	DD MAXALT 10MG	1	0.95153	0.00815	116.79	<.0001
d148	DD MAXALT 5MG	1	0.95732	0.00815	117.50	<.0001
d149	DD MAXALT MLT 10MG	1	0.94333	0.00815	115.79	<.0001
d150	DD MAXALT MLT 5MG	1	0.94913	0.00815	116.50	<.0001
d151	DD MEVACOR 10MG	1	0.96256	0.00815	118.15	<.0001
d152	DD MEVACOR 20MG	1	0.93494	0.00815	114.76	<.0001
d153	DD MEVACOR 40MG	1	0.91836	0.00815	112.72	<.0001
d154	DD NEORAL 100MG	1	0.94475	0.00815	115.96	<.0001
d155	DD NEORAL 100MG/	1	0.93992	0.00815	115.37	<.0001

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d156	DD NEORAL 25MG	1	0.95455	0.00815	117.16	<.0001
d157	DD NORVASC 10MG	1	0.95972	0.00815	117.80	<.0001
d158	DD NORVASC 2.5MG	1	0.98212	0.00815	120.55	<.0001
d159	DD NORVASC 5MG	1	0.97150	0.00815	119.24	<.0001
d160	DD NORVIR 80MG/M	1	0.93929	0.00815	115.29	<.0001
d161	DD OCUFLOX 0.30%	1	1.03429	0.00815	126.95	<.0001
d162	DD OMNICEF 125/5-	1	0.94695	0.00815	116.23	<.0001
d163	DD OMNICEF 300MG	1	0.96499	0.00815	118.45	<.0001
d164	DD ORTHO MICRONOR-28 0.35MG	1	0.95559	0.00815	117.29	<.0001
d165	DD PATANOL 0.10%	1	0.96471	0.00815	118.41	<.0001
d166	DD PAXIL 10MG	1	0.95781	0.00815	117.56	<.0001
d167	DD PAXIL 10MG/5	1	0.96364	0.00815	118.28	<.0001
d168	DD PAXIL 20MG	1	0.95131	0.00815	116.77	<.0001
d169	DD PAXIL 30MG	1	0.95044	0.00815	116.66	<.0001
d170	DD PAXIL 40MG	1	0.95297	0.00815	116.97	<.0001
d171	DD PEG-INTRON 50MCG	1	0.94861	0.00815	116.43	<.0001
d172	DD PENLAC NAIL LACQ 8%	1	0.84726	0.00815	103.99	<.0001
d173	DD PEPCID 20MG	1	0.93020	0.00815	114.17	<.0001
d174	DD PEPCID 40MG	1	0.91380	0.00815	112.16	<.0001
d175	DD PEPCID 40MG/5	1	0.95351	0.00815	117.04	<.0001
d176	DD PERCOCET 10-650	1	0.99722	0.00815	122.40	<.0001
d177	DD PERCOCET 2.5-32	1	1.17873	0.00815	144.68	<.0001
d178	DD PERCOCET 5-325M	1	1.01463	0.00815	124.54	<.0001
d179	DD PERCOCET 7.5-50	1	1.02072	0.00815	125.28	<.0001
d180	DD PLETAL 100MG	1	0.95982	0.00815	117.81	<.0001
d181	DD PLETAL 50MG	1	0.96455	0.00815	118.39	<.0001
d182	DD PRAVACHOL 10MG	1	0.94125	0.00815	115.53	<.0001
d183	DD PRAVACHOL 20MG	1	0.93833	0.00815	115.17	<.0001
d184	DD PRAVACHOL 40MG	1	0.93074	0.00815	114.24	<.0001
d185	DD PREMARIN 0.625M	1	0.98624	0.00815	121.05	<.0001
d186	DD PREMARIN 0.9MG	1	1.00045	0.00815	122.80	<.0001

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d187	DD PREMARIN 1.25MG	1	0.96826	0.00815	118.85	<.0001
d188	DD PREMARIN 2.5MG	1	0.96355	0.00815	118.27	<.0001
d189	DD PREMARIN VAGINAL 0.625M	1	0.95563	0.00815	117.30	<.0001
d190	DD PREMPHASE 0.625-	1	0.99033	0.00815	121.56	<.0001
d191	DD PREMPRO 2.5-0.	1	0.97641	0.00815	119.85	<.0001
d192	DD PREMPRO 5-0.62	1	0.97880	0.00815	120.14	<.0001
d193	DD PREVPAC N/A	1	0.92876	0.00815	114.00	<.0001
d194	DD PROCARDIA XL 30MG	1	0.96835	0.00815	118.86	<.0001
d195	DD PROCARDIA XL 60MG	1	0.94518	0.00815	116.01	<.0001
d196	DD PROCARDIA XL 90MG	1	0.94252	0.00815	115.69	<.0001
d197	DD PROCREDIT 10MU/M	1	0.94639	0.00815	116.16	<.0001
d198	DD PROCREDIT 2000U/	1	0.96601	0.00815	118.57	<.0001
d199	DD PROCREDIT 20MU/2	1	0.91396	0.00815	112.18	<.0001
d200	DD PROCREDIT 20MU/M	1	0.93810	0.00815	115.14	<.0001
d201	DD PROCREDIT 3000U/	1	0.95008	0.00815	116.61	<.0001
d202	DD PROCREDIT 4000U/	1	0.94022	0.00815	115.40	<.0001
d203	DD PROPECIA 1MG	1	1.08311	0.00815	132.94	<.0001
d204	DD PROPECIA PROPAK 1MG	1	1.06783	0.00815	131.07	<.0001
d205	DD PROSCAR 5MG	1	0.95350	0.00815	117.03	<.0001
d206	DD PROTOPIC 0.03%	1	0.98565	0.00815	120.98	<.0001
d207	DD PROTOPIC 0.10%	1	0.97154	0.00815	119.25	<.0001
d208	DD PROVIGIL 100MG	1	0.95268	0.00815	116.93	<.0001
d209	DD PROVIGIL 200MG	1	0.94037	0.00815	115.42	<.0001
d210	DD RAPAMUNE 1MG	1	0.92760	0.00815	113.86	<.0001
d211	DD RAPAMUNE 1MG/ML	1	0.92111	0.00815	113.06	<.0001
d212	DD RELAFEN 500MG	1	0.95705	0.00815	117.47	<.0001
d213	DD RELAFEN 750MG	1	0.95383	0.00815	117.08	<.0001
d214	DD REMERON SOLTAB 15MG	1	0.97819	0.00815	120.07	<.0001
d215	DD REMERON SOLTAB 30MG	1	0.97374	0.00815	119.52	<.0001
d216	DD REMERON SOLTAB 45MG	1	0.96005	0.00815	117.84	<.0001
d217	DD REQUIP 0.25MG	1	0.94644	0.00815	116.17	<.0001



**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d218	DD EQUIP 0.5MG	1	0.94004	0.00815	115.38	<.0001
d219	DD EQUIP 1MG	1	0.94271	0.00815	115.71	<.0001
d220	DD EQUIP 2MG	1	0.93936	0.00815	115.30	<.0001
d221	DD EQUIP 3MG	1	0.92979	0.00815	114.12	<.0001
d222	DD EQUIP 4MG	1	0.93613	0.00815	114.90	<.0001
d223	DD EQUIP 5MG	1	0.94516	0.00815	116.01	<.0001
d224	DD RHINOCORT AQUA 32MCG	1	0.99230	0.00815	121.80	<.0001
d225	DD ROWASA 4GM/60	1	0.93847	0.00815	115.19	<.0001
d226	DD ROWASA 500MG	1	0.97808	0.00815	120.05	<.0001
d227	DD SANDIMMUNE 100MG	1	0.93312	0.00815	114.53	<.0001
d228	DD SANDIMMUNE 100MG/	1	0.94096	0.00815	115.50	<.0001
d229	DD SANDIMMUNE 25MG	1	0.95195	0.00815	116.84	<.0001
d230	DD SANDIMMUNE 50MG/M	1	0.94723	0.00815	116.27	<.0001
d231	DD SINGULAIR 10MG	1	0.95196	0.00815	116.85	<.0001
d232	DD SINGULAIR 4MG	1	0.95821	0.00815	117.61	<.0001
d233	DD SINGULAIR 5MG	1	0.95280	0.00815	116.95	<.0001
d234	DD SKELAXIN 400MG	1	1.01408	0.00815	124.47	<.0001
d235	DD SOMA 350MG	1	0.97735	0.00815	119.96	<.0001
d236	DD SONATA 10MG	1	0.98144	0.00815	120.46	<.0001
d237	DD SONATA 5MG	1	0.99246	0.00815	121.82	<.0001
d238	DD SYNAGIS 100MG	1	0.93784	0.00815	115.11	<.0001
d239	DD SYNAGIS 50MG	1	0.90974	0.00815	111.66	<.0001
d240	DD TAZORAC 0.05%	1	0.95880	0.00815	117.68	<.0001
d241	DD TAZORAC 0.10%	1	0.95056	0.00815	116.67	<.0001
d242	DD TRAVATAN 0.00%	1	1.01809	0.00815	124.96	<.0001
d243	DD TRIPHASIL 28 N/A	1	0.97903	0.00815	120.17	<.0001
d244	DD UNIVASC 15MG	1	1.04817	0.00815	128.65	<.0001
d245	DD UNIVASC 7.5MG	1	1.05806	0.00815	129.87	<.0001
d246	DD VANTIN 100MG	1	0.96755	0.00815	118.76	<.0001
d247	DD VANTIN 100MG/	1	0.98120	0.00815	120.44	<.0001
d248	DD VANTIN 200MG	1	0.94332	0.00815	115.79	<.0001

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d249	DD VANTIN 50MG/5	1	1.01788	0.00815	124.94	<.0001
d250	DD VIAGRA 100MG	1	1.01370	0.00815	124.42	<.0001
d251	DD VIAGRA 25MG	1	1.00796	0.00815	123.72	<.0001
d252	DD VIAGRA 50MG	1	1.00617	0.00815	123.50	<.0001
d253	DD VIOXX 12.5MG	1	0.94781	0.00815	116.34	<.0001
d254	DD VIOXX 25MG	1	0.95439	0.00815	117.14	<.0001
d255	DD VIOXX 50MG	1	0.95995	0.00815	117.83	<.0001
d256	DD WELCHOL 625MG	1	0.93919	0.00815	115.28	<.0001
d257	DD XALATAN 0.01%	1	0.99427	0.00815	122.04	<.0001
d258	DD XANAX 0.25MG	1	0.98995	0.00815	121.51	<.0001
d259	DD XANAX 0.5MG	1	0.97012	0.00815	119.07	<.0001
d260	DD XANAX 1MG	1	0.95338	0.00815	117.02	<.0001
d261	DD XANAX 2MG	1	0.95080	0.00815	116.70	<.0001
d262	DD XOPENEX 0.63MG	1	0.96909	0.00815	118.95	<.0001
d263	DD XOPENEX 1.25MG	1	0.95509	0.00815	117.23	<.0001
d264	DD YASMIN 28 0.03-3	1	1.03618	0.00815	127.18	<.0001
d265	DD ZANAFLEX 2MG	1	0.99642	0.00815	122.30	<.0001
d266	DD ZANAFLEX 4MG	1	0.97326	0.00815	119.46	<.0001
d267	DD ZAROXOLYN 10MG	1	1.02047	0.00815	125.25	<.0001
d268	DD ZAROXOLYN 2.5MG	1	1.07035	0.00815	131.38	<.0001
d269	DD ZAROXOLYN 5MG	1	1.03524	0.00815	127.07	<.0001
d270	DD ZERIT 15MG	1	0.94673	0.00815	116.20	<.0001
d271	DD ZERIT 1MG/ML	1	0.94039	0.00815	115.43	<.0001
d272	DD ZERIT 20MG	1	0.94640	0.00815	116.16	<.0001
d273	DD ZERIT 30MG	1	0.94268	0.00815	115.71	<.0001
d274	DD ZERIT 40MG	1	0.93035	0.00815	114.19	<.0001
d275	DD ZITHROMAX 100MG/	1	1.02467	0.00815	125.77	<.0001
d276	DD ZITHROMAX 1GM	1	1.10103	0.00815	135.14	<.0001
d277	DD ZITHROMAX 200MG/	1	0.75160	0.00815	92.25	<.0001
d278	DD ZITHROMAX 250MG	1	1.00166	0.00815	122.95	<.0001
d279	DD ZITHROMAX 600MG	1	0.95494	0.00815	117.21	<.0001

**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
d280	DD ZITHROMAX Z-PAK 250MG	1	0.99670	0.00815	122.34	<.0001
d281	DD ZOLOFT 100MG	1	0.95346	0.00815	117.03	<.0001
d282	DD ZOLOFT 20MG/1	1	0.99630	0.00815	122.29	<.0001
d283	DD ZOLOFT 25MG	1	0.95653	0.00815	117.41	<.0001
d284	DD ZOLOFT 50MG	1	0.95203	0.00815	116.85	<.0001
d285	DD ZONEGRAN 100MG	1	0.95956	0.00815	117.78	<.0001
d286	DD ZYRTEC 10MG	1	0.96781	0.00815	118.79	<.0001
d287	DD ZYRTEC 5MG	1	0.96869	0.00815	118.90	<.0001
d288	DD ZYRTEC 5MG/5M	1	1.02412	0.00815	125.70	<.0001
d289	DD ZYVOX 100MG/	1	0.91928	0.00815	112.83	<.0001
td1	DD*Trend ACCUTANE 10MG	1	-0.00010401	0.00033800	-0.31	0.7583
td2	DD*Trend ACCUTANE 20MG	1	-0.00002036	0.00033800	-0.06	0.9520
td3	DD*Trend ACCUTANE 40MG	1	0.00031613	0.00033800	0.94	0.3497
td4	DD*Trend ADALAT CC 30MG	1	0.00051592	0.00033800	1.53	0.1269
td5	DD*Trend ADALAT CC 60MG	1	0.00050736	0.00033800	1.50	0.1334
td6	DD*Trend ADALAT CC 90MG	1	0.00011932	0.00033800	0.35	0.7241
td7	DD*Trend ALESSE-28 0.1-0.	1	0.00011521	0.00033800	0.34	0.7332
td8	DD*Trend ALPHAGAN 0.20%	1	0.00092804	0.00033800	2.75	0.0060
td9	DD*Trend ALTACE 1.25MG	1	-0.00030439	0.00033800	-0.90	0.3678
td10	DD*Trend ALTACE 10MG	1	-0.00010178	0.00033800	-0.30	0.7633
td11	DD*Trend ALTACE 2.5MG	1	-0.00007654	0.00033800	-0.23	0.8208
td12	DD*Trend ALTACE 5MG	1	-0.00005779	0.00033800	-0.17	0.8643
td13	DD*Trend AMOXIL 200MG	1	-0.00266	0.00033800	-7.87	<.0001
td14	DD*Trend AMOXIL 200MG/	1	-0.00154	0.00033800	-4.57	<.0001
td15	DD*Trend AMOXIL 400MG	1	-0.00063375	0.00033800	-1.87	0.0608
td16	DD*Trend AMOXIL 400MG/	1	-0.00053360	0.00033800	-1.58	0.1144
td17	DD*Trend AMOXIL 875MG	1	-0.00018923	0.00033800	-0.56	0.5756
td18	DD*Trend ARICEPT 10MG	1	0.00013181	0.00033800	0.39	0.6966
td19	DD*Trend ARICEPT 5MG	1	0.00004042	0.00033800	0.12	0.9048
td20	DD*Trend ASTELIN 137MCG	1	0.00207	0.00033800	6.12	<.0001
td21	DD*Trend ATIVAN 0.5MG	1	0.00022191	0.00033800	0.66	0.5115

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td22	DD*Trend ATIVAN 1MG	1	0.00022090	0.00033800	0.65	0.5134
td23	DD*Trend ATIVAN 2MG	1	0.00019111	0.00033800	0.57	0.5718
td24	DD*Trend AUGMENTIN 125MG	1	-0.00058132	0.00033800	-1.72	0.0855
td25	DD*Trend AUGMENTIN 125MG/	1	-0.00007905	0.00033800	-0.23	0.8151
td26	DD*Trend AUGMENTIN 200MG	1	0.00088283	0.00033800	2.61	0.0090
td27	DD*Trend AUGMENTIN 200MG/	1	-0.00098665	0.00033800	-2.92	0.0035
td28	DD*Trend AUGMENTIN 250MG	1	0.00043943	0.00033800	1.30	0.1936
td29	DD*Trend AUGMENTIN 250MG/	1	0.00009902	0.00033800	0.29	0.7696
td30	DD*Trend AUGMENTIN 400MG-	1	0.00003302	0.00033800	0.10	0.9222
td31	DD*Trend AUGMENTIN 400MG/	1	-0.00114	0.00033800	-3.36	0.0008
td32	DD*Trend AUGMENTIN 500MG	1	-0.00015779	0.00033800	-0.47	0.6406
td33	DD*Trend AUGMENTIN 875MG	1	0.00002629	0.00033800	0.08	0.9380
td34	DD*Trend AVANDIA 2MG	1	0.00021942	0.00033800	0.65	0.5162
td35	DD*Trend AVANDIA 4MG	1	0.00008497	0.00033800	0.25	0.8015
td36	DD*Trend AVANDIA 8MG	1	0.00008564	0.00033800	0.25	0.8000
td37	DD*Trend AVELOX 400MG	1	0.00006835	0.00033800	0.20	0.8398
td38	DD*Trend BACTROBAN 2%	1	-0.00103	0.00033800	-3.05	0.0023
td39	DD*Trend BETOPTIC S 0.25%	1	0.00047482	0.00033800	1.40	0.1601
td40	DD*Trend BIAXIN XL 500MG	1	0.00008992	0.00033800	0.27	0.7902
td41	DD*Trend BIAXIN XL-PAC 500MG	1	0.00057174	0.00033800	1.69	0.0908
td42	DD*Trend BUSPAR 10MG	1	-0.00027632	0.00033800	-0.82	0.4137
td43	DD*Trend BUSPAR 15MG	1	-0.00026450	0.00033800	-0.78	0.4339
td44	DD*Trend BUSPAR 30MG	1	0.00041962	0.00033800	1.24	0.2145
td45	DD*Trend BUSPAR 5MG	1	-0.00076794	0.00033800	-2.27	0.0231
td46	DD*Trend CIPRO HC OTIC 0.2-1%	1	0.00019791	0.00033800	0.59	0.5582
td47	DD*Trend CLEOCIN VAGINAL 100MG	1	0.00000128	0.00033800	0.00	0.9970
td48	DD*Trend CLEOCIN VAGINAL 2%	1	0.00005722	0.00033800	0.17	0.8656
td49	DD*Trend COREG 12.5MG	1	0.00030333	0.00033800	0.90	0.3695
td50	DD*Trend COREG 25MG	1	0.00040541	0.00033800	1.20	0.2304
td51	DD*Trend COREG 3.125M	1	0.00020308	0.00033800	0.60	0.5480
td52	DD*Trend COREG 6.25MG	1	0.00027454	0.00033800	0.81	0.4167

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td53	DD*Trend COSOPT .5-5ML	1	0.00104	0.00033800	3.07	0.0022
td54	DD*Trend COZAAR 100MG	1	0.00004773	0.00033800	0.14	0.8877
td55	DD*Trend COZAAR 25MG	1	0.00007242	0.00033800	0.21	0.8303
td56	DD*Trend COZAAR 50MG	1	0.00011056	0.00033800	0.33	0.7436
td57	DD*Trend CRIXIVAN 200MG	1	0.00021434	0.00033800	0.63	0.5260
td58	DD*Trend CRIXIVAN 333MG	1	-0.00032884	0.00033800	-0.97	0.3306
td59	DD*Trend CRIXIVAN 400MG	1	0.00022365	0.00033800	0.66	0.5082
td60	DD*Trend CUTIVATE 0.01%	1	0.00099753	0.00033800	2.95	0.0032
td61	DD*Trend CUTIVATE 0.05%	1	0.00049180	0.00033800	1.46	0.1457
td62	DD*Trend DDAVP 0.1MG	1	-0.00007077	0.00033800	-0.21	0.8341
td63	DD*Trend DDAVP 0.1MG/	1	-0.00058792	0.00033800	-1.74	0.0820
td64	DD*Trend DDAVP 0.2MG	1	0.00012518	0.00033800	0.37	0.7111
td65	DD*Trend DDAVP 4MCG/M	1	-0.00029035	0.00033800	-0.86	0.3904
td66	DD*Trend DEPAKOTE ER 500MG	1	-0.00044287	0.00033800	-1.31	0.1901
td67	DD*Trend DEPO-PROVERA 150MG/	1	0.00068465	0.00033800	2.03	0.0428
td68	DD*Trend DEPO-PROVERA 400MG/	1	-0.00231	0.00033800	-6.82	<.0001
td69	DD*Trend DETROL 1MG	1	0.00020377	0.00033800	0.60	0.5466
td70	DD*Trend DETROL 2MG	1	0.00023452	0.00033800	0.69	0.4878
td71	DD*Trend DETROL LA 2MG	1	-0.00021507	0.00033800	-0.64	0.5246
td72	DD*Trend DETROL LA 4MG	1	-0.00001037	0.00033800	-0.03	0.9755
td73	DD*Trend DEXEDRINE 10MG	1	-0.00044591	0.00033800	-1.32	0.1871
td74	DD*Trend DEXEDRINE 15MG	1	-0.00047189	0.00033800	-1.40	0.1627
td75	DD*Trend DEXEDRINE 5MG	1	-0.00627	0.00033800	-18.56	<.0001
td76	DD*Trend DIFLUCAN 100MG	1	-0.00080023	0.00033800	-2.37	0.0179
td77	DD*Trend DIFLUCAN 10MG/M	1	-0.00106	0.00033800	-3.12	0.0018
td78	DD*Trend DIFLUCAN 40MG/M	1	-0.00048516	0.00033800	-1.44	0.1512
td79	DD*Trend DIFLUCAN 50MG	1	-0.00016162	0.00033800	-0.48	0.6325
td80	DD*Trend DIOVAN HCT 160-12	1	0.00005722	0.00033800	0.17	0.8656
td81	DD*Trend DIOVAN HCT 80-12.	1	0.00021291	0.00033800	0.63	0.5288
td82	DD*Trend DITROPAN XL 10MG	1	0.00011019	0.00033800	0.33	0.7444
td83	DD*Trend DITROPAN XL 15MG	1	0.00013519	0.00033800	0.40	0.6892

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td84	DD*Trend DITROPAN XL 5MG	1	0.00002431	0.00033800	0.07	0.9427
td85	DD*Trend DOSTINEX 0.5MG	1	0.00014961	0.00033800	0.44	0.6580
td86	DD*Trend EFFEXOR 100MG	1	0.00012798	0.00033800	0.38	0.7050
td87	DD*Trend EFFEXOR 25MG	1	-0.00016474	0.00033800	-0.49	0.6260
td88	DD*Trend EFFEXOR 37.5MG	1	-0.00005221	0.00033800	-0.15	0.8772
td89	DD*Trend EFFEXOR 50MG	1	-0.00015321	0.00033800	-0.45	0.6504
td90	DD*Trend EFFEXOR 75MG	1	0.00001346	0.00033800	0.04	0.9682
td91	DD*Trend EFFEXOR XR 150MG	1	-0.00001497	0.00033800	-0.04	0.9647
td92	DD*Trend EFFEXOR XR 37.5MG	1	0.00003106	0.00033800	0.09	0.9268
td93	DD*Trend EFFEXOR XR 75MG	1	-0.00000103	0.00033800	-0.00	0.9976
td94	DD*Trend EFUDEX 2%	1	0.00084117	0.00033800	2.49	0.0128
td95	DD*Trend EFUDEX 5%	1	-0.00053404	0.00033800	-1.58	0.1141
td96	DD*Trend EPOGEN 10MU/1	1	-8.38005E-7	0.00033800	-0.00	0.9980
td97	DD*Trend EPOGEN 2000U/	1	0.00060582	0.00033800	1.79	0.0731
td98	DD*Trend EPOGEN 20MU/2	1	-0.00293	0.00033800	-8.66	<.0001
td99	DD*Trend EPOGEN 3000U/	1	0.00106	0.00033800	3.14	0.0017
td100	DD*Trend EPOGEN 4000U/	1	-0.00015036	0.00033800	-0.44	0.6564
td101	DD*Trend FLOMAX 0.4MG	1	0.00008254	0.00033800	0.24	0.8071
td102	DD*Trend FOLLISTIM 75IU	1	0.00302	0.00033800	8.94	<.0001
td103	DD*Trend FOSAMAX 10MG	1	0.00045119	0.00033800	1.33	0.1819
td104	DD*Trend FOSAMAX 35MG	1	-0.00011801	0.00033800	-0.35	0.7270
td105	DD*Trend FOSAMAX 40MG	1	-0.00076122	0.00033800	-2.25	0.0243
td106	DD*Trend FOSAMAX 5MG	1	0.00038853	0.00033800	1.15	0.2504
td107	DD*Trend FOSAMAX 70MG	1	0.00011587	0.00033800	0.34	0.7318
td108	DD*Trend GABITRIL 12MG	1	0.00015012	0.00033800	0.44	0.6570
td109	DD*Trend GABITRIL 16MG	1	0.00006465	0.00033800	0.19	0.8483
td110	DD*Trend GABITRIL 2MG	1	-0.00023000	0.00033800	-0.68	0.4962
td111	DD*Trend GABITRIL 4MG	1	-0.00011002	0.00033800	-0.33	0.7448
td112	DD*Trend GEODON 20MG	1	0.00012794	0.00033800	0.38	0.7050
td113	DD*Trend GEODON 40MG	1	-0.00010143	0.00033800	-0.30	0.7641
td114	DD*Trend GEODON 60MG	1	-0.00049544	0.00033800	-1.47	0.1427



**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td115	DD*Trend GEODON 80MG	1	-0.00055696	0.00033800	-1.65	0.0994
td116	DD*Trend GLUCOPHAGE XR 500MG	1	0.00063968	0.00033800	1.89	0.0584
td117	DD*Trend GLUCOTROL XL 10MG	1	-0.00060058	0.00033800	-1.78	0.0756
td118	DD*Trend GLUCOTROL XL 2.5MG	1	-0.00255	0.00033800	-7.55	<.0001
td119	DD*Trend GONAL-F 1200IU	1	0.00219	0.00033800	6.47	<.0001
td120	DD*Trend GONAL-F 75IU	1	0.00122	0.00033800	3.61	0.0003
td121	DD*Trend HUMALOG PEN 300U/3	1	0.00010391	0.00033800	0.31	0.7585
td122	DD*Trend HUMALOG PEN MIX 75 100U/M	1	0.00011119	0.00033800	0.33	0.7422
td123	DD*Trend HUMULIN N 100U/M	1	-0.00027542	0.00033800	-0.81	0.4152
td124	DD*Trend HUMULIN R 500U/M	1	0.00073320	0.00033800	2.17	0.0301
td125	DD*Trend HYZAAR 100-25	1	-0.00001665	0.00033800	-0.05	0.9607
td126	DD*Trend HYZAAR 50-12.	1	0.00013282	0.00033800	0.39	0.6944
td127	DD*Trend INDERAL LA 120MG	1	-0.00000795	0.00033800	-0.02	0.9812
td128	DD*Trend INDERAL LA 160MG	1	-0.00013001	0.00033800	-0.38	0.7005
td129	DD*Trend INDERAL LA 60MG	1	0.00015873	0.00033800	0.47	0.6386
td130	DD*Trend INDERAL LA 80MG	1	0.00002154	0.00033800	0.06	0.9492
td131	DD*Trend INTRON-A 10MMU/	1	-0.00009742	0.00033800	-0.29	0.7732
td132	DD*Trend INTRON-A 18MMU	1	-0.00165	0.00033800	-4.88	<.0001
td133	DD*Trend INTRON-A 50MMU	1	-0.00065965	0.00033800	-1.95	0.0510
td134	DD*Trend INTRON-A 6MMU/1	1	0.00129	0.00033800	3.80	0.0001
td135	DD*Trend KALETRA 133.3-	1	-0.00018815	0.00033800	-0.56	0.5778
td136	DD*Trend KALETRA 400-10	1	-0.00038775	0.00033800	-1.15	0.2513
td137	DD*Trend KEPPRA 250MG	1	0.00009633	0.00033800	0.29	0.7756
td138	DD*Trend KEPPRA 500MG	1	-0.00010420	0.00033800	-0.31	0.7579
td139	DD*Trend KEPPRA 750MG	1	-0.00004541	0.00033800	-0.13	0.8931
td140	DD*Trend LANTUS 100U/M	1	-0.00013888	0.00033800	-0.41	0.6812
td141	DD*Trend LO/OVRAL-28 0.3-0.	1	0.00027352	0.00033800	0.81	0.4184
td142	DD*Trend LOVENOX 100MG	1	0.00043429	0.00033800	1.28	0.1989
td143	DD*Trend LOVENOX 30MG/0	1	0.00032542	0.00033800	0.96	0.3357
td144	DD*Trend LOVENOX 80MG/0	1	0.00237	0.00033800	7.02	<.0001
td145	DD*Trend LUPRON DEPOT 3.75MG	1	0.00017836	0.00033800	0.53	0.5977

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td146	DD*Trend LUPRON DEPOT 7.5MG	1	-0.00057761	0.00033800	-1.71	0.0875
td147	DD*Trend MAXALT 10MG	1	0.00016353	0.00033800	0.48	0.6285
td148	DD*Trend MAXALT 5MG	1	0.00021017	0.00033800	0.62	0.5341
td149	DD*Trend MAXALT MLT 10MG	1	0.00024859	0.00033800	0.74	0.4621
td150	DD*Trend MAXALT MLT 5MG	1	0.00017785	0.00033800	0.53	0.5988
td151	DD*Trend MEVACOR 10MG	1	0.00040963	0.00033800	1.21	0.2256
td152	DD*Trend MEVACOR 20MG	1	0.00056437	0.00033800	1.67	0.0950
td153	DD*Trend MEVACOR 40MG	1	0.00061411	0.00033800	1.82	0.0693
td154	DD*Trend NEORAL 100MG	1	-0.00049917	0.00033800	-1.48	0.1398
td155	DD*Trend NEORAL 100MG/	1	-0.00019687	0.00033800	-0.58	0.5603
td156	DD*Trend NEORAL 25MG	1	-0.00042940	0.00033800	-1.27	0.2040
td157	DD*Trend NORVASC 10MG	1	0.00018810	0.00033800	0.56	0.5779
td158	DD*Trend NORVASC 2.5MG	1	0.00010532	0.00033800	0.31	0.7554
td159	DD*Trend NORVASC 5MG	1	0.00023303	0.00033800	0.69	0.4906
td160	DD*Trend NORVIR 80MG/M	1	-0.00042733	0.00033800	-1.26	0.2062
td161	DD*Trend OCUFLOX 0.30%	1	-0.00106	0.00033800	-3.13	0.0017
td162	DD*Trend OMNICEF 125/5-	1	0.00148	0.00033800	4.39	<.0001
td163	DD*Trend OMNICEF 300MG	1	0.00002000	0.00033800	0.06	0.9528
td164	DD*Trend ORTHO MICRONOR-28 0.35MG	1	0.00041376	0.00033800	1.22	0.2209
td165	DD*Trend PATANOL 0.10%	1	-0.00005239	0.00033800	-0.15	0.8768
td166	DD*Trend PAXIL 10MG	1	-0.00001013	0.00033800	-0.03	0.9761
td167	DD*Trend PAXIL 10MG/5	1	-0.00035779	0.00033800	-1.06	0.2898
td168	DD*Trend PAXIL 20MG	1	0.00013656	0.00033800	0.40	0.6862
td169	DD*Trend PAXIL 30MG	1	0.00012946	0.00033800	0.38	0.7017
td170	DD*Trend PAXIL 40MG	1	0.00013577	0.00033800	0.40	0.6879
td171	DD*Trend PEG-INTRON 50MCG	1	-0.00034291	0.00033800	-1.01	0.3103
td172	DD*Trend PENLAC NAIL LACQ 8%	1	0.00233	0.00033800	6.91	<.0001
td173	DD*Trend PEPCID 20MG	1	0.00093512	0.00033800	2.77	0.0057
td174	DD*Trend PEPCID 40MG	1	0.00049095	0.00033800	1.45	0.1464
td175	DD*Trend PEPCID 40MG/5	1	0.00044090	0.00033800	1.30	0.1921
td176	DD*Trend PERCOCET 10-650	1	-0.00104	0.00033800	-3.07	0.0021



**AA as Percentage of AWP**  
 $\beta_{2i}$  (Drug-Dummy<sub>i</sub>),  $\beta_{3i}$  (Drug-Dummy<sub>i</sub>\*Trend)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td177	DD*Trend PERCOCET 2.5-32	1	-0.00266	0.00033800	-7.86	<.0001
td178	DD*Trend PERCOCET 5-325M	1	-0.00049061	0.00033800	-1.45	0.1467
td179	DD*Trend PERCOCET 7.5-50	1	-0.00133	0.00033800	-3.93	<.0001
td180	DD*Trend PLETAL 100MG	1	-0.00017473	0.00033800	-0.52	0.6052
td181	DD*Trend PLETAL 50MG	1	-0.00017020	0.00033800	-0.50	0.6146
td182	DD*Trend PRAVACHOL 10MG	1	0.00031508	0.00033800	0.93	0.3513
td183	DD*Trend PRAVACHOL 20MG	1	0.00031475	0.00033800	0.93	0.3518
td184	DD*Trend PRAVACHOL 40MG	1	0.00029048	0.00033800	0.86	0.3901
td185	DD*Trend PREMARIN 0.625M	1	0.00014396	0.00033800	0.43	0.6702
td186	DD*Trend PREMARIN 0.9MG	1	-0.00036450	0.00033800	-1.08	0.2809
td187	DD*Trend PREMARIN 1.25MG	1	0.00044037	0.00033800	1.30	0.1926
td188	DD*Trend PREMARIN 2.5MG	1	0.00109	0.00033800	3.24	0.0012
td189	DD*Trend PREMARIN VAGINAL 0.625M	1	-0.00013147	0.00033800	-0.39	0.6973
td190	DD*Trend PREMPHASE 0.625-	1	-0.00018937	0.00033800	-0.56	0.5753
td191	DD*Trend PREMPRO 2.5-0.	1	0.00023211	0.00033800	0.69	0.4923
td192	DD*Trend PREMPRO 5-0.62	1	0.00016679	0.00033800	0.49	0.6217
td193	DD*Trend PREVPAC N/A	1	0.00018457	0.00033800	0.55	0.5850
td194	DD*Trend PROCARDIA XL 30MG	1	0.00038637	0.00033800	1.14	0.2530
td195	DD*Trend PROCARDIA XL 60MG	1	0.00037460	0.00033800	1.11	0.2678
td196	DD*Trend PROCARDIA XL 90MG	1	0.00022696	0.00033800	0.67	0.5019
td197	DD*Trend PROCREDIT 10MU/M	1	0.00020177	0.00033800	0.60	0.5505
td198	DD*Trend PROCREDIT 2000U/	1	0.00102	0.00033800	3.03	0.0025
td199	DD*Trend PROCREDIT 20MU/2	1	0.00038872	0.00033800	1.15	0.2502
td200	DD*Trend PROCREDIT 20MU/M	1	0.00022352	0.00033800	0.66	0.5084
td201	DD*Trend PROCREDIT 3000U/	1	0.00001914	0.00033800	0.06	0.9549
td202	DD*Trend PROCREDIT 4000U/	1	0.00041562	0.00033800	1.23	0.2189
td203	DD*Trend PROPECIA 1MG	1	-0.00003779	0.00033800	-0.11	0.9110
td204	DD*Trend PROPECIA PROPAK 1MG	1	-0.00026753	0.00033800	-0.79	0.4287
td205	DD*Trend PROSCAR 5MG	1	0.00017076	0.00033800	0.51	0.6134
td206	DD*Trend PROTOPIC 0.03%	1	-0.00031280	0.00033800	-0.93	0.3548
td207	DD*Trend PROTOPIC 0.10%	1	-0.00049567	0.00033800	-1.47	0.1426

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td208	DD*Trend PROVIGIL 100MG	1	0.00043371	0.00033800	1.28	0.1995
td209	DD*Trend PROVIGIL 200MG	1	0.00043255	0.00033800	1.28	0.2007
td210	DD*Trend RAPAMUNE 1MG	1	0.00043130	0.00033800	1.28	0.2020
td211	DD*Trend RAPAMUNE 1MG/ML	1	0.00023629	0.00033800	0.70	0.4845
td212	DD*Trend RELAFEN 500MG	1	-0.00005181	0.00033800	-0.15	0.8782
td213	DD*Trend RELAFEN 750MG	1	-0.00007920	0.00033800	-0.23	0.8147
td214	DD*Trend REMERON SOLTAB 15MG	1	-0.00005784	0.00033800	-0.17	0.8641
td215	DD*Trend REMERON SOLTAB 30MG	1	-0.00015229	0.00033800	-0.45	0.6523
td216	DD*Trend REMERON SOLTAB 45MG	1	0.00019635	0.00033800	0.58	0.5613
td217	DD*Trend REQUIP 0.25MG	1	0.00018804	0.00033800	0.56	0.5780
td218	DD*Trend REQUIP 0.5MG	1	0.00048528	0.00033800	1.44	0.1511
td219	DD*Trend REQUIP 1MG	1	0.00025743	0.00033800	0.76	0.4463
td220	DD*Trend REQUIP 2MG	1	0.00042227	0.00033800	1.25	0.2116
td221	DD*Trend REQUIP 3MG	1	0.00066737	0.00033800	1.97	0.0484
td222	DD*Trend REQUIP 4MG	1	0.00016878	0.00033800	0.50	0.6175
td223	DD*Trend REQUIP 5MG	1	0.00004153	0.00033800	0.12	0.9022
td224	DD*Trend RHINOCORT AQUA 32MCG	1	-0.00101	0.00033800	-2.99	0.0028
td225	DD*Trend ROWASA 4GM/60	1	-0.00042135	0.00033800	-1.25	0.2126
td226	DD*Trend ROWASA 500MG	1	0.00435	0.00033800	12.86	<.0001
td227	DD*Trend SANDIMMUNE 100MG	1	-0.00025301	0.00033800	-0.75	0.4541
td228	DD*Trend SANDIMMUNE 100MG/	1	-0.00065065	0.00033800	-1.92	0.0543
td229	DD*Trend SANDIMMUNE 25MG	1	-0.00049753	0.00033800	-1.47	0.1411
td230	DD*Trend SANDIMMUNE 50MG/M	1	-0.00074401	0.00033800	-2.20	0.0277
td231	DD*Trend SINGULAIR 10MG	1	-0.00003798	0.00033800	-0.11	0.9105
td232	DD*Trend SINGULAIR 4MG	1	-0.00010744	0.00033800	-0.32	0.7506
td233	DD*Trend SINGULAIR 5MG	1	-0.00003870	0.00033800	-0.11	0.9088
td234	DD*Trend SKELAXIN 400MG	1	-0.00152	0.00033800	-4.50	<.0001
td235	DD*Trend SOMA 350MG	1	-0.00066703	0.00033800	-1.97	0.0485
td236	DD*Trend SONATA 10MG	1	-0.00009594	0.00033800	-0.28	0.7765
td237	DD*Trend SONATA 5MG	1	-0.00012038	0.00033800	-0.36	0.7217
td238	DD*Trend SYNAGIS 100MG	1	-0.00140	0.00033800	-4.15	<.0001

**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td239	DD*Trend SYNAGIS 50MG	1	0.00070435	0.00033800	2.08	0.0372
td240	DD*Trend TAZORAC 0.05%	1	-0.00010429	0.00033800	-0.31	0.7577
td241	DD*Trend TAZORAC 0.10%	1	0.00011793	0.00033800	0.35	0.7272
td242	DD*Trend TRAVATAN 0.00%	1	-0.00160	0.00033800	-4.74	<.0001
td243	DD*Trend TRIPHASIL 28 N/A	1	0.00028918	0.00033800	0.86	0.3923
td244	DD*Trend UNIVASC 15MG	1	-0.00135	0.00033800	-4.00	<.0001
td245	DD*Trend UNIVASC 7.5MG	1	-0.00172	0.00033800	-5.08	<.0001
td246	DD*Trend VANTIN 100MG	1	-0.00026645	0.00033800	-0.79	0.4305
td247	DD*Trend VANTIN 100MG/	1	-0.00023008	0.00033800	-0.68	0.4961
td248	DD*Trend VANTIN 200MG	1	0.00002117	0.00033800	0.06	0.9501
td249	DD*Trend VANTIN 50MG/5	1	-0.00102	0.00033800	-3.01	0.0026
td250	DD*Trend VIAGRA 100MG	1	-0.00059332	0.00033800	-1.76	0.0792
td251	DD*Trend VIAGRA 25MG	1	-0.00066773	0.00033800	-1.98	0.0482
td252	DD*Trend VIAGRA 50MG	1	-0.00051936	0.00033800	-1.54	0.1244
td253	DD*Trend VIOXX 12.5MG	1	-0.00006534	0.00033800	-0.19	0.8467
td254	DD*Trend VIOXX 25MG	1	0.00091442	0.00033800	2.71	0.0068
td255	DD*Trend VIOXX 50MG	1	0.00106	0.00033800	3.13	0.0017
td256	DD*Trend WELCHOL 625MG	1	-0.00003518	0.00033800	-0.10	0.9171
td257	DD*Trend XALATAN 0.01%	1	-0.00053669	0.00033800	-1.59	0.1123
td258	DD*Trend XANAX 0.25MG	1	0.00050071	0.00033800	1.48	0.1385
td259	DD*Trend XANAX 0.5MG	1	0.00039529	0.00033800	1.17	0.2422
td260	DD*Trend XANAX 1MG	1	0.00022076	0.00033800	0.65	0.5137
td261	DD*Trend XANAX 2MG	1	-0.00027465	0.00033800	-0.81	0.4165
td262	DD*Trend XOPENEX 0.63MG	1	-0.00010857	0.00033800	-0.32	0.7481
td263	DD*Trend XOPENEX 1.25MG	1	0.00022524	0.00033800	0.67	0.5052
td264	DD*Trend YASMIN 28 0.03-3	1	-0.00132	0.00033800	-3.89	<.0001
td265	DD*Trend ZANAFLEX 2MG	1	-0.00067465	0.00033800	-2.00	0.0460
td266	DD*Trend ZANAFLEX 4MG	1	-0.00017825	0.00033800	-0.53	0.5980
td267	DD*Trend ZAROXOLYN 10MG	1	-0.00156	0.00033800	-4.60	<.0001
td268	DD*Trend ZAROXOLYN 2.5MG	1	-0.00187	0.00033800	-5.53	<.0001
td269	DD*Trend ZAROXOLYN 5MG	1	-0.00145	0.00033800	-4.28	<.0001

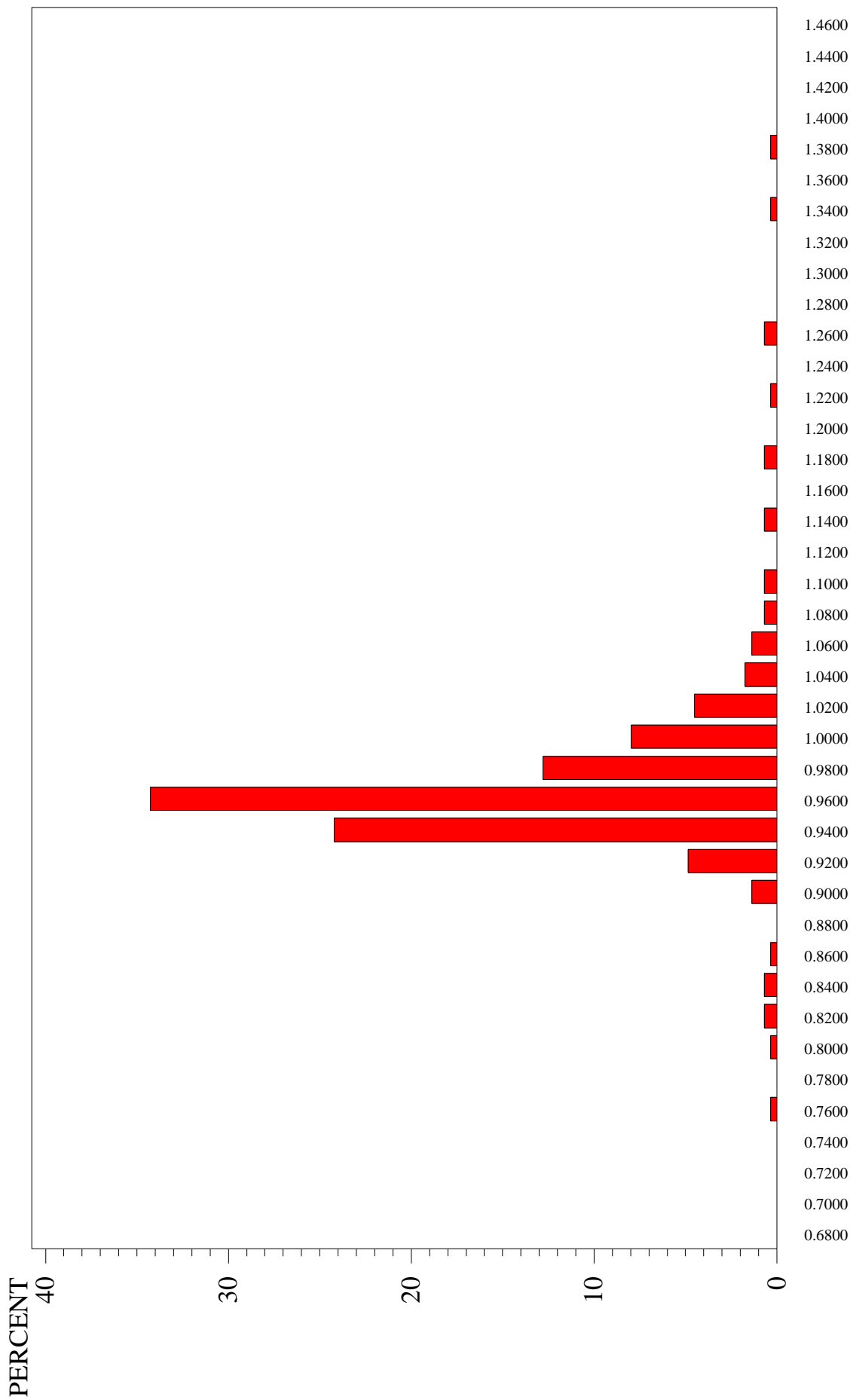
**AA as Percentage of AWP**  
 $\beta_{2i}$  (*Drug-Dummy<sub>i</sub>*),  $\beta_{3i}$  (*Drug-Dummy<sub>i</sub>\*Trend*)  
 Filtered Drugs and Strengths

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: aapct\_awp**

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
td270	DD*Trend ZERIT 15MG	1	-0.00046762	0.00033800	-1.38	0.1665
td271	DD*Trend ZERIT 1MG/ML	1	-0.00061751	0.00033800	-1.83	0.0677
td272	DD*Trend ZERIT 20MG	1	0.00014589	0.00033800	0.43	0.6660
td273	DD*Trend ZERIT 30MG	1	0.00012298	0.00033800	0.36	0.7160
td274	DD*Trend ZERIT 40MG	1	0.00027130	0.00033800	0.80	0.4222
td275	DD*Trend ZITHROMAX 100MG/	1	-0.00033691	0.00033800	-1.00	0.3189
td276	DD*Trend ZITHROMAX 1GM	1	-0.00030279	0.00033800	-0.90	0.3704
td277	DD*Trend ZITHROMAX 200MG/	1	-0.00060729	0.00033800	-1.80	0.0724
td278	DD*Trend ZITHROMAX 250MG	1	-0.00006211	0.00033800	-0.18	0.8542
td279	DD*Trend ZITHROMAX 600MG	1	0.00009687	0.00033800	0.29	0.7744
td280	DD*Trend ZITHROMAX Z-PAK 250MG	1	-0.00010335	0.00033800	-0.31	0.7598
td281	DD*Trend ZOLOFT 100MG	1	-0.00002181	0.00033800	-0.06	0.9485
td282	DD*Trend ZOLOFT 20MG/1	1	-0.00056349	0.00033800	-1.67	0.0955
td283	DD*Trend ZOLOFT 25MG	1	0.00003638	0.00033800	0.11	0.9143
td284	DD*Trend ZOLOFT 50MG	1	0.00004224	0.00033800	0.12	0.9005
td285	DD*Trend ZONEGRAN 100MG	1	-0.00028117	0.00033800	-0.83	0.4055
td286	DD*Trend ZYRTEC 10MG	1	0.00037821	0.00033800	1.12	0.2632
td287	DD*Trend ZYRTEC 5MG	1	0.00069800	0.00033800	2.07	0.0389
td288	DD*Trend ZYRTEC 5MG/5M	1	0.00049982	0.00033800	1.48	0.1392
td289	DD*Trend ZYVOX 100MG/	1	0.00039210	0.00033800	1.16	0.2461

Exhibit F.2.c

Non-Appendix A Drug/Strengths  
Drug-Strength Specific AA/AWP Intercept Coefficients  
Distribution of Coefficients

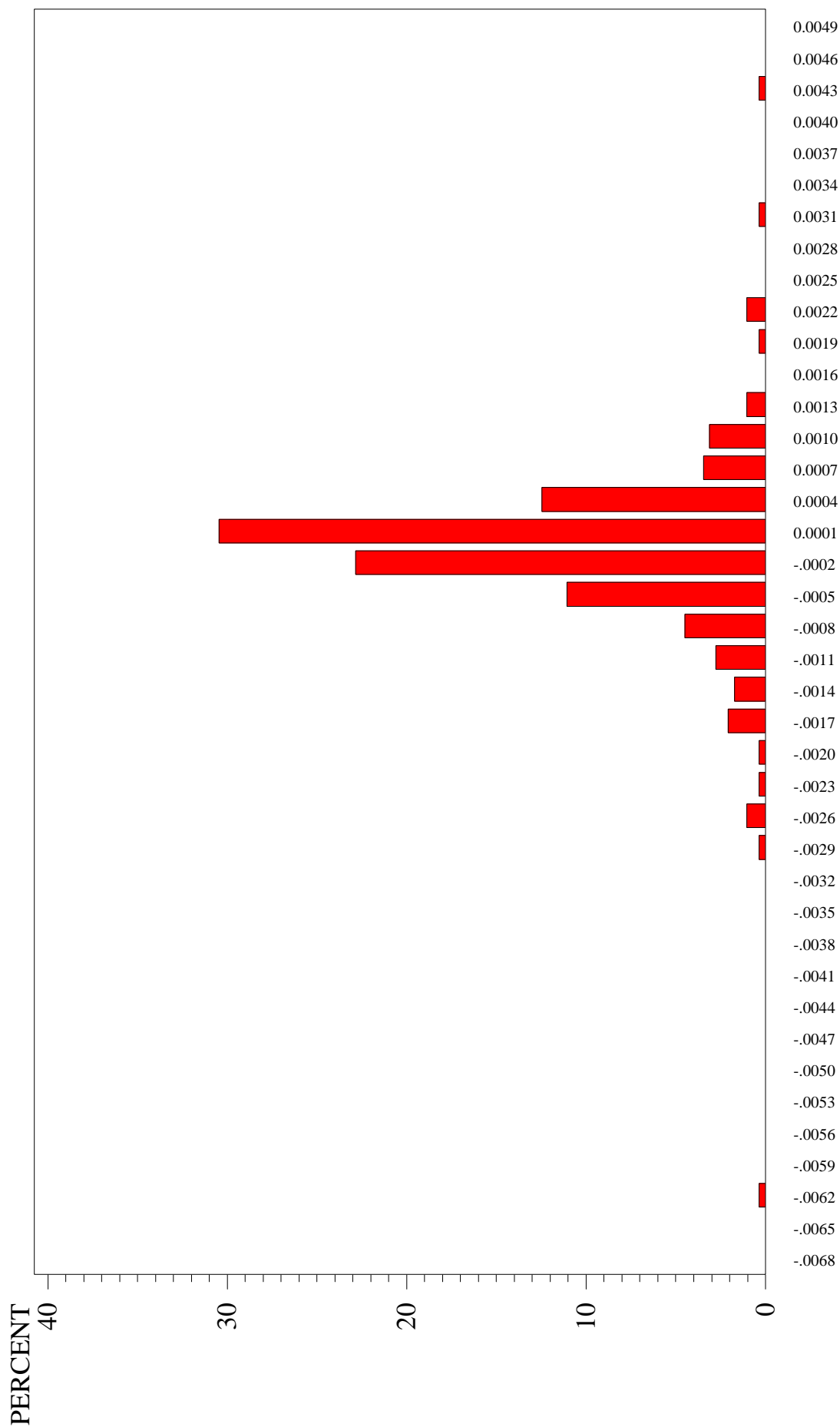


Note: Of the 289 coefficients, there are 289 positive (289 significant) and 0 negative (0 significant).

Subject to Protective Order

Exhibit F.2.c

Non-Appendix A Drug/Strengths  
Drug-Strength Specific AA/AWP Time-Trend Coefficients  
Distribution of Coefficients



Note: Of the 289 coefficients, there are 152 positive (25 significant) and 137 negative (33 significant).

*Subject to Protective Order*

**ATTACHMENT F: EXHIBIT F.3**

**Exhibit F.3.a: Damages Due to the 5% AWP Inflation Scheme: Entire Class Period**

(All figures in dollars.)

**A. Nominal Damages (Through March 2005)**

	2001	2002	2003	2004	2005 (Through Mar.)	Total
Class 1: Coinsurance Payers	347,639	47,914,354	59,851,502	64,327,070	15,282,663	187,723,227
Class 2: TPPs	10,069,516	1,387,861,364	1,733,626,385	1,863,263,263	442,669,391	5,437,489,919
Proposed Class 3: Uninsured	1,337,699	184,372,447	230,306,101	247,527,899	58,807,055	722,351,201
Total	11,754,854	1,620,148,165	2,023,783,988	2,175,118,232	516,759,108	6,347,564,348

**B. Damages Including Prejudgment Interest Through June 30, 2007**

	2001	2002	2003	2004	2005 (Through Mar.)	Total
Class 1: Coinsurance Payers	414,734	55,630,845	68,381,069	72,364,161	16,733,656	213,524,466
Class 2: TPPs	14,140,631	1,841,860,705	2,203,755,533	2,272,475,061	513,020,815	6,845,252,745
Proposed Class 3: Uninsured	1,595,881	214,065,188	263,127,519	278,454,295	64,390,416	821,633,299
Total	16,151,246	2,111,556,739	2,535,264,121	2,623,293,518	594,144,887	7,880,410,510



**Exhibit F.3.b: Damages Due to the 5% AWP Inflation Scheme: Through March 2004**

(All figures in dollars.)

**A. Nominal Damages (Through March 2004)**

	2001	2002	2003	2004 (Through Mar)	Total
Class 1: Coinsurance Payers	347,639	47,914,354	59,851,502	15,699,605	123,813,100
Class 2: TPPs	10,069,516	1,387,861,364	1,733,626,385	454,746,319	3,586,303,584
Proposed Class 3: Uninsured	1,337,699	184,372,447	230,306,101	60,411,432	476,427,679
Total	11,754,854	1,620,148,165	2,023,783,988	530,857,356	4,186,544,363

**B. Damages Including Prejudgment Interest Through June 30, 2007**

	2001	2002	2003	2004 (Through Mar)	Total
Class 1: Coinsurance Payers	414,734	55,630,845	68,381,069	17,661,131	142,087,779
Class 2: TPPs	14,140,631	1,841,860,705	2,203,755,533	554,618,174	4,614,375,044
Proposed Class 3: Uninsured	1,595,881	214,065,188	263,127,519	67,959,299	546,747,887
Total	16,151,246	2,111,556,739	2,535,264,121	640,238,604	5,303,210,710

**Exhibit F.3.c: Damages Due to the 5% AWP Inflation Scheme: Through March 2003**

(All figures in dollars.)

**A. Nominal Damages (Through March 2003)**

	2001	2002	2003 (Through Mar)	Total
Class 1: Coinsurance Payers	347,639	47,914,354	14,755,235	63,017,227
Class 2: TPPs	10,069,516	1,387,861,364	427,392,181	1,825,323,061
Proposed Class 3: Uninsured	1,337,699	184,372,447	56,777,532	242,487,678
Total	11,754,854	1,620,148,165	498,924,947	2,130,827,966

**B. Damages Including Prejudgment Interest Through June 30, 2007**

	2001	2002	2003 (Through Mar)	Total
Class 1: Coinsurance Payers	414,734	55,630,845	16,858,035	72,903,615
Class 2: TPPs	14,140,631	1,841,860,705	543,293,464	2,399,294,800
Proposed Class 3: Uninsured	1,595,881	214,065,188	64,869,020	280,530,088
Total	16,151,246	2,111,556,739	625,020,518	2,752,728,503

**Exhibit F.3.d: Damages Due to the 5% AWP Inflation Scheme: Quarterly Totals**

(All figures in dollars.)

**A. Nominal Damages (Through March 2005)**

	2001Q3	2001Q4	2002Q1	2002Q2	2002Q3	2002Q4	2003Q1	2003Q2	2003Q3	2003Q4	2004Q1	2004Q2	2004Q3	2004Q4	2005Q1	Total
Class 1: Coinsurance Payers	-70,661	418,300	6,166,314	12,370,902	14,312,358	15,064,780	14,755,235	15,124,272	13,839,340	16,132,656	15,699,605	16,452,122	16,282,614	15,892,728	15,282,663	187,723,227
Class 2: TPPs	-2,046,728	12,116,243	178,610,122	358,328,888	414,564,042	436,358,312	427,392,181	438,081,517	400,862,875	467,289,813	454,746,319	476,543,298	471,633,434	460,340,212	442,669,391	5,437,489,919
Proposed Class 3: Uninsured	-271,900	1,609,600	23,727,720	47,602,719	55,073,359	57,968,650	56,777,532	58,197,572	53,253,208	62,077,790	60,411,432	63,307,083	62,654,825	61,154,560	58,807,055	722,351,201
Total	-2,389,289	14,144,143	208,504,156	418,302,509	483,949,758	509,391,743	498,924,947	511,403,360	467,955,422	545,500,259	530,857,356	556,302,502	550,570,873	537,387,501	516,759,108	6,347,564,348

## **Exhibit F.3.e: Department of Defense Indirect Purchases of Prescription Drugs**

Number of Prescriptions, TRICARE/CHAMPUS [1]	12,513,448
Total Dispensed Prescriptions [2]	3,100,000,000
Share of All Retail Rxs That Are Actually DoD [3]	0.4%

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Notes:

[1] TRICARE/CHAMPUS 2002 Chartbook of Statistics, Section VII, page 19 (FY 2001).

(<http://199.211.83.250/Reports/Chartbook/2002/section7.cfm> accessed August 2003).

[2] Drug Topics, March 18, 2002, "Still growing: steady, not stellar, growth marked the pharmaceutical market last year".

[3] Equal to "Number of Prescriptions, TRICARE/CHAMPUS" divided by "Total Dispensed Prescriptions".

**Exhibit F.3.f: Other Government Adjustments****Federal Employees**

Number of Covered Beneficiaries in the FEHBP	9,000,000	1
Percent of Self-Insured FEHBP Employees	70%	2
Total Self-Insured FEHBP Beneficiaries	6,300,000	3

**State Employees, Retirees and Other Local Employees Covered by State Employee Health Benefit Plans**Employees

Total Number of Employees	3,901,252	4
Percent of Active Employees in HMO/POS Plans	48%	5
Percent of Self-Insured Employees	52%	6
Number of Self-Insured Employees	2,028,651	7

Retirees

Total Number of Retirees	1,333,385	8
Percent of Retirees in HMO/POS Plans	48%	9
Percent of Self-Insured Retirees	52%	10
Number of Self-Insured Retirees	693,360	11

Total Number of Self-Insured Employees and Retirees	2,722,011	12
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**Totals**

Total Federal, State, and Local Self-Insured Beneficiaries	9,022,011	13
Privately Insured Beneficiaries: Employer Insurance	162,950,380	14
Privately Insured Beneficiaries: Individual Insurance	13,246,180	15
Total Privately Insured Beneficiaries	176,196,560	16
Total Government Self-Insured Employee Percentage	5.1%	17
Third-Party Payer Share	78.8%	18
Total Government Self-Insured Deduction	4.0%	19
Department of Defense Share	0.4%	20
Medicaid Share	11.9%	21
<b>Total Government Deduction</b>	<b>16.3%</b>	<b>22</b>

**Exhibit F.3.f: Notes to Government Adjustment**

Row	Description
1	Source: Henry J. Kaiser Family Foundation, "Medicare Restructuring: The FEHBP Model", February 1999 (FEHBP Model), p. 4.
2	Source: FEHBP Model, p. 11. Sum total "Blue Cross/Blue Shield" percent and "Employee organization" percent.
3	= Row 1 * Row 2.
4	Source: The Segal Company, "1999 Survey of State Employee Health Benefit Plans" (Segal Report), Table 10, p. 23. Equals national "Total Employees Covered."
5	Source: Segal Report, Table 1, p. 3. Equals national "Active Employees in HMO/POS Plans, Percent".
6	= 100% - Row 5. This assumes that the remaining employees are self-insured.
7	= Row 4 * Row 6.
8	Source: Segal Report, Table 11, p. 25. Equals national "Total Retirees Covered."
9	= Row 5.
10	= Row 6.
11	= Row 8 * Row 10.
12	= Row 7 + Row 11.
13	= Row 3 + Row 12.
14	Source: Kaiser Family Foundation web site: <a href="http://statehealthfacts.kff.org">http://statehealthfacts.kff.org</a> . Click on "Health Coverage and Uninsured" and then "Distributed by Insurance Status". Accessed August 2003.
15	Source: Kaiser Family Foundation web site: <a href="http://statehealthfacts.kff.org">http://statehealthfacts.kff.org</a> . Click on "Health Coverage and Uninsured" and then "Distributed by Insurance Status". Accessed August 2003.
16	= Row 14 + Row 15.
17	= Row 13 / Row 16.
18	Source: Novartis, Pharmacy Benefit Report: Facts & Figures, 2004 edition, Figure 1: Retail Market Share by Payer Type: 2003, p. 23.
19	= Row 17 * Row 18.
20	See Exhibit F.3.e.
21	Source: Novartis, Pharmacy Benefit Report: Facts & Figures, 2004 edition, Figure 1: Retail Market Share by Payer Type: 2003, p. 23.
22	= Row 19 + Row 20 + Row 21.

## Notes to Exhibit F.3

1. IMS does not track NDCs until October 2003. Any given drug/strength may have some NDCs that are in Appendix A and some that are not. For the period prior to the time when IMS tracks NDC data, there may be additional sales not attributable to Appendix A for any given drug/strength. To adjust for this data limitation, a ratio is calculated of total dollars for Appendix A NDCs divided by total dollars for all NDCs for each drug/strength. This is then multiplied by damages for each drug/strength prior to October 2003.

2. IMS does not track dollars to the mail order retail channel. In order to capture the purchases of the Class through mail order, the following adjustment to damages was made. The percentage of sales to mail order with respect to all other retail channels was calculated. The resulting adjustment to damages would then be one divided by one minus the mail order percentage. See below:

2001: Mail order percentage = 17.4%; Adjustment percentage =  $1/(1-17.4\%) = 1.21$ .

2002: Mail order percentage = 19.1%; Adjustment percentage =  $1/(1-19.1\%) = 1.24$ .

2003: Mail order percentage = 18.1%; Adjustment percentage =  $1/(1-18.1\%) = 1.22$ .

2004: Mail order percentage = 19.7%; Adjustment percentage =  $1/(1-19.7\%) = 1.25$ .

2005: Mail order percentage = 21.0%; Adjustment percentage =  $1/(1-21.0\%) = 1.27$ .

Sources:

IMS Health Press Release, "IMS Reports 16.9 Percent Growth in 2001 U.S. Prescription Sales", April, 26, 2002, [http://www.imshealth.com/ims/portal/front/articleC/0,2777,6025\\_3665\\_1003965,00.html](http://www.imshealth.com/ims/portal/front/articleC/0,2777,6025_3665_1003965,00.html), accessed 9/6/2007.

IMS Health Press Release, "IMS Reports 11.8% Dollar Growth in 2002 U.S. Prescription Sales", Feb, 21, 2003, [http://www.imshealth.com/ims/portal/front/articleC/0,2777,6599\\_3665\\_41276589,00.html](http://www.imshealth.com/ims/portal/front/articleC/0,2777,6599_3665_41276589,00.html), accessed 9/6/2007.

IMS Health Press Release, "IMS Reports 11.5% Dollar Growth in '03 U.S. Prescription Sales", Feb, 17, 2004, [http://www.imshealth.com/ims/portal/front/articleC/0,2777,6599\\_3665\\_44771558,00.html](http://www.imshealth.com/ims/portal/front/articleC/0,2777,6599_3665_44771558,00.html), accessed 9/6/2007.

IMS Health Press Release, "2004 Year-End U.S. Prescription and Sales Information and Commentary", Feb, 2005, [http://www.imshealth.com/ims/portal/front/articleC/0,2777,6599\\_3665\\_69890098,00.html](http://www.imshealth.com/ims/portal/front/articleC/0,2777,6599_3665_69890098,00.html), accessed 9/6/2007.

IMS Health Press Release, "Channel Distribution by U.S. Sales", March 2007, [http://www.imshealth.com/ims/portal/front/articleC/0,2777,6599\\_80408863\\_80411875,00.html](http://www.imshealth.com/ims/portal/front/articleC/0,2777,6599_80408863_80411875,00.html), accessed 9/6/2007.

3. FDB data were not available after November 2004. Therefore, for damages from December 2004 to March 2005, the x% from November 2004 (or the last month of data) was multiplied by the dollar amount for December 2004 through March 2005 respectively.

4. The shares of payments by third-party payers (78.8%), uninsured cash payers (9.3%) and Medicaid (11.9%) were taken from Novartis, Pharmacy Benefit Report: Facts & Figures, 2004 edition, Figure 1: Retail Market Share by Payer Type: 2003, p. 23.

5. The percent of TPPs with coinsurance is assumed to be 13% (source: Kaiser Family Foundation, Employer Health Benefits 2006 Annual Survey, Exhibit 9.3, (percentage for "preferred drugs").).

6. The percentage of the total amount paid by coinsurance payers is assumed to be 25% (source: Kaiser Family Foundation, Employer Health Benefits 2006 Annual Survey, Exhibit 9.5, (2006 percentage for "preferred drugs").).
7. Prejudgment interest is calculated using a compounding, mid-year methodology through June 30, 2007. The Prime rate is used for TPP damages. The one year T-bill rate is used for consumers paying coinsurance and uninsured cash payers.
8. All 737 drug/dosages are included in the analysis. However, note that for a subset of NDCs (accounting for 28 drug/dosages), WAC data were not available during the time of the price jump. These NDCs relate to drugs that had a different NDC number at the time of the jump, and have a NDC different number today -- i.e., their NDCs changed over time, but they were still the same drugs. Since Appendix A only shows the more recent NDC number, the WAC data for the previous NDC number were not merged. Damages for these NDCs were set to zero. Should Counsel request to do so, the WAC data for the earlier NDCs could be included and damages could be calculated.



# Exhibit 12

8. New McKesson BIS Rule: We will monitor (weekly) the items where the FDB WAC and the McK WAC are different and send information to FDB to discover why. These items should be corrected quickly once we discover the reason it is happening and correct the process if necessary.

9. All new brand vendors will be set up as 1.25 markup factor vendors, both at McK and FDB.

10. BIS will assess needs to improve this process and maintain it. Erlinda may make staffing recommendations based on this.

11. McKesson is currently getting weekly FDB downloads. Our competition and many of our retail customers (Rite Aid) are getting daily downloads which in some cases makes us look inaccurate. I would recommend that we change to daily downloads. I am told that our competition may be getting some advantage in more timely price increase information allowing them to place timely orders.

12. Econolink system is updated weekly from our Saturday FDB download. Information is available the following Monday for customers that get daily Econolink Updates, the following week for customers getting weekly updates.....providing they update their Econolink systems as directed.

13. Econolink is pulling the FDB AWP figure from DITM. System does not look at Sugg Sell or Retail List.

14. Customers currently have two options for selecting information that appears on Invoices and Price Tickets:

A. They may select to have Sugg. Sell or Retail List appear 100% of the time.

B. They may select to have Sugg. Sell or AWP, whichever is greater appear on invoice and price

tickets.

(this option may be problematic with changes going on, in that AWP may be lower than suggested sell and customer really needs or wants to have AWP)

C. New Business Request in to have a third option to show AWP 100% of the time. This makes the most sense of all of these in my opinion since so much confusion exists surrounding AWP and reimbursements. I am told that an estimate was given that this could take 6 to 12 months to accomplish with current staffing and priorities. This seems unacceptable to our field sales folks since most believe this would alleviate the confusion about pricing and AWP's.

15. The sizing and timing of this business request is being looked at by Judy's group as they re-prioritize their work.

16. I have asked Judy Schnabel to think about the possibility of changing Option A above to 100% AWP because this would give us the quick fix. In time, Option B will be okay because Brand AWP and Sugg Sell will likely be the same number.

17. Most of the confusion surrounding AWP's is not new. This has been going on for years. The awareness level is increasing as our customers are looking at everything imaginable to improve their profitability because of the decreasing trend in third party reimbursement rates. As noted above, Schram's Pharmacy has accepted reimbursement plans that are AWP Minus 18% plus a \$1.75 fee. This is the environment that we live in today.

18. On a positive note: we are looking into and trying to understand every aspect of this process here at McKesson which is resulting in greatly improved understanding and accuracy in the information that is provided to our customers.

19. Also, few people seem to understand the positive impact on our customers' profitability.....including some of them. This is extremely significant and people need to understand this impact. Just one example with Lipitor 20mg 90s: with the old

16 2/3% spread a customer would make \$6.86 profit, with the new 20% spread a customer will enjoy \$17.18 profit.....and that is awesome!!

20. We may need to have a meeting to discuss moving forward with the BR for Option C for supplying AWP on invoices and tickets. There seems to be an urgency to get this done. We may need your help to give it high priority with Judy's group.

Let me know if you have questions or need additional information.

Take care.

Bob James  
Director-Brand Pharmaceutical Product Management  
McKesson  
One Post Street-8th Floor  
San Francisco, CA 94104  
415-983-8755. Fax 415-732-2951  
robert.james@mckesson.com

# Exhibit 13

---

**From:** James, Robert  
**Sent:** Monday, June 17, 2002 8:13 AM  
**To:** Yonko, Greg; Dolan, Anthony  
**Cc:** Bonner, John; Sacino, Claudia; Miller, Mark (CAR); Booth, Tim  
**Subject:** RE: Albertsons Contract Renewal

I would like to see Albertsons participate in our Prefer Rx program at a priority 02 level which would mean that their own contract prices would take precedence over our price. We could use priority 01 which would mean that they would get the lower of the two prices, however, we would need to look into contract compliance issues and be sure about the way we set it up.

I know that Albertsons both recognizes and appreciates our efforts with the AWP situation. This has most likely had a very positive impact on their gross profits. On their insurance based business this equates to lowering cost of goods about 3 1/3% on those items that previously had a 16 2/3% spread..... which previously had been about 80% of the Rx products. I am wondering if this can be leveraged in any way. Worst case, it should be no less than a tie-breaker if the situation gets to that point.

Take care.

Bob James  
Director-Brand Pharmaceutical Product Management  
McKesson  
One Post Street-8th Floor  
San Francisco, CA 94104  
415-983-8755. Fax 415-732-2851  
robert.james@mcckesson.com

-----Original Message-----

**From:** Yonko, Greg  
**Sent:** Friday, June 14, 2002 5:47 PM  
**To:** Dolan, Anthony  
**Cc:** Bonner, John; Sacino, Claudia; James, Robert; Miller, Mark (CAR); Booth, Tim  
**Subject:** RE: Albertsons Contract Renewal

We will be in touch..

To the team, any suggestions, ideas, etc.. please forward to me, they should be both positive comments as well as process improvement opportunities

Greg

-----Original Message-----

**From:** Dolan, Anthony  
**Sent:** Thursday, June 13, 2002 3:26 PM  
**To:** Yonko, Greg  
**Subject:** Albertsons Contract Renewal

Hello Greg,

I'm starting the thought process for our contract renewal with Albertsons and I was wondering if there is anything that you would recommend that we could do differently?

Go ahead and think outside the box.

Thanks

Anthony F. Dolan  
Vice President Retail National Accounts

# Exhibit 14

From: James, Robert  
 Sent: Tuesday, September 18, 2001 8:03 AM  
 To: Secrest, Larry  
 Cc: Ryan, Mary; Beall, Kim; Yonko, Greg; Thomas, Erlinda  
 Subject: RE: AWP Variance

Larry, this may seem complicated but it is not. First, I think that it is important to understand that the AWP's that are used for third party reimbursements are the First Data Bank (FDB) AWP's. FDB determines the AWP by surveying the three national wholesalers on Brand Pharmaceuticals (generics are somewhat different) and taking the average, e.g. if 2 out of 3 are at 16 2/3% spread then that is the FDB published AWP, if 2 out of 3 are at 20%, then that is what is published. In your example below, McKesson chose to increase the markup on the Park-Davis line (Lipitor) last January when Pfizer took them over. This was our attempt to raise the AWP's to support our customers. The other two wholesalers did not do this. (I am told by FDB that the Parke-Davis products from Pfizer will most likely have AWP's increased to 20% this January when price increases typically take place.....this will then be the same as the McK figure)

McKesson lists the FDB AWP's in our DITM file. The confusion can be mitigated by having customers use this AWP on their pricing tickets, etc. Keep in mind that AWP is the Average Wholesale Price. The McKesson price you are citing is our Sell Price or List Price. By definition the McKesson price is not an average of anything, but just our markup on WAC and in most cases it equals the FDB figure. Our customer's business is not at risk because of this List Price. Its at risk because they have agreed to contracts of AWP minus 15% and sometimes more. These reimbursements are figured across the industry from the FDB figure. Most pharmacists know that and understand it well. Its been awhile since I used the Econolink system but it seems to me it lists the figure as Sell Price or List Price. If it says McK AWP, we should have some discussion about it. The true AWP is the First Data Bank figure. This can be confusing because the McK Sell Price and the FDB AWP are often the same.

McKesson keeps this differential in our system in hopes that if one of the other wholesalers happens to raise their markup on an item (maybe due to pressure from retail customers), and FDB happens to resurvey the items, the AWP will be increased and our customer will benefit substantially. We have just had some recent successes. The AWP spreads were recently increased by FDB on Concerta, and the Searle items from Pharmacia and also Genotropin from Pharmacia. Yesterday, we raised the markups on the Aventis line on some of the old RPR products to 25% markup. There are more coming. I believe that we have an opportunity to "normalize" the AWP spreads on brand pharmaceuticals at a 25% markup (or 20% spread) and most customers would love it. The chains certainly are aware of this and are very appreciative of our efforts because they understand the profitability associated with higher AWP's.

Sorry, for the long-winded response. If you would like to discuss this further, please give me a call. I don't recall talking with Mike Ryan but I can assure you that I have never suggested a manual override in a customers system. However, I have suggested that when customers select what information they want on their pricing tickets that they choose the FDB AWP so that they know what their reimbursements will be based on.

Larry, the examples above are from the DITM screens where all the set up information resides.

Bob James  
 Director-Brand Pharmaceutical Product Management  
 McKesson  
 One Post Street-9th Floor  
 San Francisco, CA 94104  
 415-983-8755, Fax 415-732-2951  
 robert.james@mckesson.com

-----Original Message-----

From: Secrest, Larry  
 Sent: Tuesday, September 18, 2001 6:53 AM  
 To: Thomas, Erlinda; James, Robert  
 Cc: Ryan, Mary; Beall, Kim; Yonko, Greg

# Exhibit 15

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From: James, Robert  
Sent: Tuesday, May 21, 2002 12:56 PM  
To: Yonko, Greg  
Cc: Bonner, John  
Subject: FW: AWP expansion

tyl.....Its great that someone would take the time to send in something positive. This is what makes it worth while. Maybe they are starting to get it out in the field.

Bob James  
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San Francisco, CA 94104  
415-983-8755. Fax 415-732-2951  
robert.james@mcckesson.com

-----Original Message-----

From: Wallis, Jeff  
Sent: Tuesday, May 21, 2002 9:52 AM  
To: James, Robert  
Cc: Thomas, Jon  
Subject: AWP expansion

Bob,

I had a real nice meeting with Med-X Corp last week. They are a 22 store chain of ours doing about 50M per year with us. Jerry Howard, the director of operations, mentioned his margins on RX have increased recently for the first time in a LONG time. He was very excited about it when I mentioned we had been working on AWP expansion with some success he was even more happy that McKesson was looking out for our customers. He was very glad that McKesson was doing this and would love to talk more about it. I told him we have an expert in that area and maybe I could have you call Jerry. Would you be interested in talking to a customer of ours about the process we are undertaking with trying to expand the AWP margins. If not that's fine. I just thought this is a real positive for our customers that they need to be more aware of. Let me know and I can set up a call if your interested in talking to Med-X about this.

Jeff Wallis  
DSM OKC DC  
Office- 405-688-4027  
cell -405-833-0728  
audix 4155

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# Exhibit 16

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**From:** Secrest, Larry  
**Sent:** Wednesday, November 27, 2002 1:27 PM  
**To:** James, Robert  
**Cc:** Hamik, Bill  
**Subject:** Increased AWP's

Bob,

I received a call from a customer in OH earlier this week who does a lot of fertility drug business. He indicated that some time back, he had had to walk away from doing business with certain drugs because the AWP/Cost spread were in the 15-16% range and it was not feasible for him to try to make any money at it. He called to say that he was looking at some of these items again and found that the spread appears to have increased significantly on most of these items to the area of about 20-21%. He wondered if we had any part in doing this and, if so, he wanted to let us know that he really appreciated our efforts. His thoughts are, unless he missed something, that he would once again, try to get into doing business with some of these items.

The items he gave me were: Lupron Depo, Avonex, Copaxal, Peg Intron, Intron, Rematron, Procrit (I hope I have all of these names correct). He stated that most Schering injectibles had increased.

Can you give me your feedback on this as to whether we in fact did assist in these changes, if they are truly changes, and if this will remain the case?

Thanks  
Larry

# Exhibit 17

---

From: James, Robert  
Sent: Friday, October 11, 2002 1:29 PM  
To: 'Dan Connolly'  
Subject: RE: See, we listen!!

Just wanted you to know that Clarinex AWP spreads went to 20% this week. A few weeks ago, Celexa went to 20% as well.

Fat Cat status is just around the corner.

Take care.

Bob James  
Director, Brand Pharmaceutical Product Management McKesson One Post Street, 8th Floor San Francisco, CA 94104 415-983-8755, fax 415-732-2951 robert.james@mckesson.com

-----Original Message-----

From: Dan Connolly (mailto:danc@bartelldrugs.com)  
Sent: Thursday, September 05, 2002 4:48 PM  
To: James, Robert  
Subject: RE: See, we listen!!

THANKS....I GUESS I HAVE STIRRED THINGS UP WITH THE FORREST PEOPLE...ALL YOU HAVE TO TELL THEM IS THAT WE AREN'T GOING TO STOCK LEXAPRO AND PUT IT ON SPECIAL ORDER ONLY LIKE OXYCONTIN.

SCHERING REP CALLED AND WANTED TO KNOW WHAT I WAS GOING TO DO TO MOVE THE CLARITIN BUSINESS TO CLARINEX...NOT A THING I REPLIED...THE AWP/TO COST IS MUCH BETTER ON ZYRTEC, ALLEGRA AND CLARITIN...AND OTC CLARITIN REPRESENTED A NEW PROFIT CENTER FOR OUR STORES....SHE IS GOING TO TALK TO HER BOSS ABOUT GETTING THE CLARINEX AWP CHANGED...

NEXT COMPANY...00299- GALDERMA...short awp's too...

THANKS.

-----Original Message-----

From: James, Robert (mailto:Robert.James@McKesson.com)  
Sent: September 05, 2002 3:10 PM  
To: 'Dan Connolly'  
Subject: See, we listen!!

Most of their stuff looks okay but I am running a new file and will follow up and let you know.

PAY ATTENTION NOW: follow up from our NACDS conversation.

Celexa and Lexapro will have an AWP markup of 25% or a spread of 20% as soon as FDB information is updated. Look for change to happen next week.

Keep Smilin.....and who said we never listen to our customers (and old friends).

# Exhibit 18

---

**From:** James, Robert  
**Sent:** Friday, October 25, 2002 4:15 PM  
**To:** David Vucurevich (E-mail)  
**Subject:** FW: STOCKING LETTER FOR ZETIA

**Importance:** High

**Attachments:** 20208294(1)-8.5x11.pdf



20208294(1)-8.5x11  
.pdf (64 KB)...

Hello Dave.....just got your vm from yesterday. We were out for training on "change management" for our new buying system.

I think you have been sent the info on Zetia by now, but just in case you haven't, here is the communication from Merck. If you have any questions, please call me Monday AM or leave a message and I'll get back to you as soon as I can.

Hope all is going well. Take care.

P.S. latest AWP changes....Celexa and Clarinex, working on Lilly and Novo

Bob James  
Director, Brand Pharmaceutical Product Management McKesson One Post Street, 8th Floor San Francisco, CA 94104 415-983-8755, fax 415-732-2951 robert.james@mckesson.com

-----Original Message-----

**From:** Sullivan, Emmett J. [mailto:emmett\_sullivan@merck.com]  
**Sent:** Tuesday, October 08, 2002 9:13 PM  
**To:** James, Robert  
**Subject:** STOCKING LETTER FOR ZETIA  
**Importance:** High

Bob, we can discuss the attached at our meeting today. See you at 8:30 AM.  
E

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>  
>

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Notice: This e-mail message, together with any attachments, contains information of Merck & Co., Inc. (Whitehouse Station, New Jersey, USA) that may be confidential, proprietary copyrighted and/or legally privileged, and is intended solely for the use of the individual or entity named on this message. If you are not the intended recipient, and have received this message in error, please immediately return this by e-mail and then delete it.  
=====



October 2002

Dear Wholesaler:

On behalf of Merck/Schering-Plough Pharmaceuticals, Merck is pleased to announce a special introductory offer for ZETIA<sup>®</sup> (ezetimibe), which will be coming to the market soon. We are extending this offer to wholesaler customers only to encourage prebooking of orders, thus ensuring that retail customers have access through their primary wholesalers to this new product, immediately on availability. ZETIA is the first prescription medicine to be submitted to the FDA for approval by Merck/Schering-Plough Pharmaceuticals.

Merck/Schering-Plough Pharmaceuticals is an independent joint venture between Merck & Co., Inc., and Schering-Plough Corporation, formed in May 2000 to develop and market products worldwide (excluding Japan). Under the joint venture agreement, Merck is the contracting and distribution agent for Merck/Schering-Plough Pharmaceuticals.

#### Special Introductory Offer on Your First Purchase of ZETIA:

This special introductory offer provides a 3% off-invoice discount plus 90 days total dating on your first order only.

Type of Order	Date of Call	Off-Invoice Discount	Prompt Payment Discount	Extended Dating	Total Dating
First order	October 7-31, 2002	3% Discount (First order only)	2% Discount (Standard)	Additional 60 Days	90 Days

Promptly stock ZETIA at retail outlets and receive an additional 6% *distribution allowance* based on total bottles stocked within 8 business days of receipt of product from your Merck Order Fulfillment Center. A minimum of 2 bottles and a maximum of 4 bottles (30 count) is permitted per store.

To receive this 6% discount, only wholesalers are permitted to execute the shipping or autoshipment of product directly to the retail stores and provide appropriate documentation of shipment.\*

Please send the following information within 30 days of shipment, on diskette in spreadsheet format (preferably Microsoft Excel 97 or later), to Merck & Co., Inc., Order Management Center, Attn: Stocking Incentive for ZETIA, PO Box 4, ZB-750, West Point, PA 19460-0004, or e-mail the following information to the Merck Order Management Center at [omcmerck@merck.com](mailto:omcmerck@merck.com):

- Store name, address, quantity shipped per store (2-4 bottles per outlet), and date of shipment\* per store.

All standard terms and conditions apply.

Place an order by calling the Merck Order Management Center at 1-800-MERCK-RX (1-800-637-2579) or FAX 1-215-652-6700.

#### Update Your Systems to Include ZETIA

Take this opportunity to update your order systems to include ZETIA with the product specifications and prices provided below:

ZETIA 10-mg Package Size	NDC Number	Order Code	Catalog Price
Unit-of-use bottle of 30 tablets	66582-414-31	03861-31	TBA
Unit-of-use bottle of 90 tablets (Not available at launch)	66582-414-54	03861-54	TBA
Bulk bottle of 500 tablets (Not available at launch)	66582-414-74	03861-74	TBA
Hospital unit-dose package of 100 tablets (10 blister cards of 10 tablets) (Not available at launch)	66582-414-28	03861-28	TBA

Please insert this sheet into Merck Price List No. 91.

\*Date of shipment must be on or before the 7th business day following receipt of product from your Merck Order Fulfillment Center.

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Carton Dimensions and Weights

ZETIA 10 mg	Package Type	Outside Dimensions Inches (Approx)			Weight (Approx)
		Depth	Width	Height	
Unit-of-use bottle of 30	Individual Unit (1 Bottle)	1 $\frac{1}{2}$	1 $\frac{7}{8}$	2 $\frac{1}{2}$	0.8 oz
	Overwrapped Bundle (12 Bottles)	6 $\frac{1}{2}$	4 $\frac{7}{8}$	2 $\frac{1}{2}$	9.7 oz
	Shipping Case (288 Bottles)	14 $\frac{3}{4}$	13 $\frac{3}{4}$	12 $\frac{3}{4}$	16.24 lb
Unit-of-use bottle of 90	Individual Unit (1 Bottle)	1 $\frac{1}{2}$	1 $\frac{7}{8}$	2 $\frac{1}{2}$	1.0 oz
	Overwrapped Bundle (12 Bottles)	6 $\frac{1}{2}$	4 $\frac{7}{8}$	2 $\frac{1}{2}$	12.1 oz
	Shipping Case (288 Bottles)	14 $\frac{3}{4}$	13 $\frac{3}{4}$	12 $\frac{3}{4}$	19.92 lb
Bulk bottle of 500	Individual Unit (1 Bottle)	2	1 $\frac{7}{8}$	3	2.6 oz
	Overwrapped Bundle (12 Bottles)	8	5 $\frac{1}{2}$	2 $\frac{7}{8}$	31.2 oz
	Shipping Case (48 Bottles)	11 $\frac{1}{2}$	8 $\frac{3}{4}$	6 $\frac{1}{2}$	8.33 lb
Hospital unit dose	Carton (10 Blister Cards)	3 $\frac{1}{2}$	1 $\frac{1}{2}$	4 $\frac{1}{2}$	2.3 oz
	Shipping Case (40 Cartons)	16 $\frac{1}{4}$	8 $\frac{3}{4}$	10 $\frac{1}{2}$	6.53 lb

Contact Merck to place an order by calling the Merck Order Management Center at 1-800-MERCK-RX (1-800-637-2579) or FAX 1-215-652-6700.

For product and service information, please call the Merck National Service Center at 1-800-NSC-MERCK (1-800-672-6372) or contact your National Account Executive or the Business Manager responsible for your account.

Sincerely,

A handwritten signature in cursive script that reads "G. Paul Payton".

G. Paul Payton, RPh  
Executive Director  
Merck & Co., Inc.  
Pharmacy/Wholesalers

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# Exhibit 19

## Monthly Status Report

**McKESSON**  
*Empowering Healthcare*

### Rx Brand Product Management General Overview October 2002

#### Summary of October Promo Purchases:

- Promo Buys were placed for \$137, 839,427.99 during the month of October.
- Billback profit amounted to \$2,038,154. or 1.48% of total October buys.
- Off-invoice profits on amounted to \$1,580,424. or 1.15% of total buys.
- NRGP Profit on these allocations totals \$78,095. which is equal to 0.06%.
- Total estimated profit for the month is \$3,696.673 or 2.68% of promo buys.

#### New Product Launches:

- Zetia, which will be co-marketed by Schering and Merck has been approved and will be shipping in the next couple of weeks. Merck is responsible for the distribution and this is the first time they have relied on the wholesalers for 100% of this launch. They are offering 3% off invoice, 6% distribution allowance...only for those chains/stores that autoship through the wholesaler. Plus a \$12.00 (non-published) rapid ship fee for distribution within 48 to 72 hours. This is really non traditional Merck. This product will adjunctive therapy for lowering cholesterol and will be used in conjunction with the Statin drugs.
- Abilify, a new BMS antipsychotic drug (will compete with Lilly's Zyprexa) is waiting for approval any day. This is going to be a blockbuster from all indications. The deal on Abilify is 8% off invoice, an 8% distribution allowance, and 60 days extra dating.
- Metaglip, is a new BMS combination drug for diabetics. We have just received this product and will be sending it out in the next couple of days. We got 10% off invoice, up to \$22.00 in distribution allowances depending on the number of sku's that were autoshipped, and an extra 60 days dating.
- Pegasus, a new Roche product is just in. This will compete with Schering's Peg-Intron for hepatitis. There was no deal, just dating on the new product.

#### On the horizon:

- Endo will have a generic for Oxy-Contin in March of 2003.
- GlaxoSmithKline will have a new vaccine product out that will reduce the number of vaccinations a newborn will receive by two-thirds.

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## Monthly Status Report

**McKESSON**

*Empowering Healthcare*

### Current Initiatives:

- We will be meeting with Abbott to discuss the transition to new NDC numbers and the importance of good communication to help sell through the old stock. We are trying very hard to get Abbott to understand the role that we can play in passing along incentives or discounts to large chains so that the industry can sell through the old stock easily and make a smooth transition to the new product. If this does not happen, there will be huge return issues and outdates, etc.
- We are also working with Abbott to recover the 1% return allowance paid to McKesson for the QW purchases and RxPak. These amount to just under \$1,000,000 for QW and about \$1,385,000 for RxPak. Today, these allowances are going into a general fund and are not being captured where they belong. QW has between \$200,000 and \$300,000 worth of returns that have to be discarded. The allowance is meant to offset these situations.
- We are working with ZLB to exchange the Immune Globulin that is short dated. This has been a huge hassle because ZLB is a one-item vendor and cannot issue credit against any other purchases. They have been working with us to help sell off short dated product to large users like Johns Hopkins, etc.
- We have had some recent success in getting some AWP issues resolved by requesting that new surveys be done on Celexa and Clarinex. Both items had AWP spreads increased to 20% from 16 2/3% last month. This is a huge boost in profitability for our retail customers. We are working on getting some adjustments done on Lilly and Novo Nordisk products (insulin).
- Our new marketing group has been spending some time working with us on updating our Prefer Rx Marketing Program. We have added some new items and they are working on refreshing our marketing materials and educational material for our field sales folks. We have also recently added Costco, Snyders, Bi-Mart, and Bartells to this program.

# Exhibit 20

## Monthly Status Report

**McKESSON**  
Empowering Healthcare

### On the horizon:

- Pfizer just received the approval on Relpax for migraines. This has been a huge success in Europe the past several years. FDA required additional clinical information and trials, which ultimately delayed launch in the U.S. This product is expected to ship in early February and should become another blockbuster.
- Aventis just received approval on their new antibiotic, Ketek, which will compete with Pfizer's Zithromycin. We do not have pricing yet but expect this to come by the end of the week. This product will ship the first week in February. Ketek is also expected to be a blockbuster.
- Merck is close to approval on a new anti-emesis drug for cancer patients that should be another big success.

### Current Initiatives:

- We are still working with Abbott to recover the 1% return allowance paid to McKesson for the QW purchases and RxPak. These amount to just under \$1,000,000 for QW and about \$1,385,000 for RxPak. Today, these allowances are going into a general fund and are not being captured where they belong. QW has between \$200,000 and \$300,000 worth of returns that have to be discarded. The allowance is meant to offset these situations.
- The ZLB Immune Globulin situation has been resolved. We were able to negotiate a return and re-order on the entire amount of short-dated and expired product. This effort saved McKesson a write-off of about \$1,300,000. Kim Hindley-Shaw and Scott Bradford were intimately involved in this process and we could not have resolved this situation without their help.
- We have had some recent success in getting some movement in AWP's on Lilly and Novo products. Our retail customers should begin seeing huge improvement in profitability when dispensing these products over the next few months. Both companies have had AWP spreads increased to 20% from 16 2/3%, which will be realized as price increases occur.
- Our new marketing group has been spending some time working with us on updating our Prefer Rx Marketing Program and is preparing for a re-launch. We have added some new items and they are working on refreshing our marketing materials and educational material for our field sales folks. We have also recently added Albertson's to this group of participating stores.
- We are currently looking at some analysis of the Abbott pricing structure to see if it makes sense to get rid of the list only feature that has been used for years and take advantage of Abbott's two tier pricing strategy. (They are the last in the industry to use the two tier pricing). This could potentially create a substantial amount of net

# Exhibit 21

---

From: Coppolo, Benjamin  
Sent: Friday, July 30, 2004 5:07 AM  
To: Bonner, John  
Subject: RE: Price change  
  
Sensitivity: Confidential

Thanks for the information.

Ben Coppolo  
McKesson Corporation  
8129 Arlington Texas  
817-652-7668

-----Original Message-----

From: Bonner, John  
Sent: Thursday, July 29, 2004 5:44 PM  
To: Coppolo, Benjamin  
Subject: RE: Price change  
Sensitivity: Confidential

*We try to "push" the AWP up to 25% above WAC rather than 20%. This may cause your customer some short term reimbursement pain with the payors but in the long run, if AWP at First Data Bank goes from 20% to 25%, your customer will benefit.*

*Most payors reimburse pharmacies at AWP minus 15 to 17%. The higher AWP markup percentage, the more they are paid by the insurance company. Pharmacies barely break even on items with 20% AWP's.*

John Bonner  
Director Product Management, Branded Rx  
McKesson Drug  
One Post St. 20th Floor  
San Francisco, CA 94104

voice 415-983-8363  
FAX 415-722-2594  
cell 925-708-6731

-----Original Message-----

From: Coppolo, Benjamin  
Sent: Thursday, July 29, 2004 3:26 PM  
To: Bonner, John  
Cc: Shurden, Jacob; Wright, Tim  
Subject: RE: Price change

John

I was unaware of how the AWP price was derived and had a question from a customer) regarding the AWP price on this particular product. I was under the impression that we may have the wrong price in our system due to a change from the vendor. If this is the correct price that we get the product for then the AWP does need to be changed. Sorry for the confusion.

Ben Coppolo

# Exhibit 22



McKesson's. Just for kicks, I assumed a 70% gross margin for JOM and calculated their Omnicare profit also.

**Omnicare total JOM**  
Redacted

**McKesson total JOM**  
Redacted

**JOM Omnicare**  
Redacted

Redacted

-----Original Message-----

**From:** James, Robert  
**Sent:** Wednesday, July 28, 2004 2:19 PM  
**To:** Stubbs, Andrew; Boyd, Beth; Hanks, Jason; Cardenas, Debbie; Bolger, Phil  
**Cc:** Felton, Jeff; Petrus, Susan; Torres, Martha  
**Subject:** RE: JOM - Omnicare positioning for support Sales \$ Summary

Please see below for the workup of what the impact has been for Omnicare on JOM products relative to the change in AWP spread. Three years ago J & J products were all 16 2/3% AWP spread products. Today, almost all of them are 20% spread. Procrit just changed last month.

Just for this example we'll roll up these figures to WAC (amounts given divided by .982) and look at profitability assuming all third party Rx's based on AWP minus 15% (any additional fee would remain constant so we won't use a fee in this example because we don't have the number of transactions).

Redacted

Redacted

or 3 times the profit as before

Redacted

or more than 3 times the profit as before.

We're a nice advocate to have around. This example is just to provide background to our team so everyone realizes the impact of increasing AWP's.....Not by McKesson, but by the FDB process.

Call me if you questions.

Bob James  
Vice President, Brand Rx Product Management  
McKesson  
One Post Street, 20th Floor  
San Francisco, CA. 94104  
Phone 415-983-8755, Fax 415-732-2951  
robert.james@mckesson.com

-----Original Message-----

**From:** Stubbs, Andrew  
**Sent:** Wednesday, July 28, 2004 12:20 PM  
**To:** Boyd, Beth; Hanks, Jason; Cardenas, Debbie; James, Robert; Bolger, Phil  
**Cc:** Felton, Jeff; Petrus, Susan  
**Subject:** RE: JOM - Omnicare positioning for support Sales & Summary

All- Here's a summary of the JOM Sales, Procrit Sales, and Remicade Sales for all of Omnicare for April 04 through June 04.

Jason- just a reminder.... Redacted

Redacted

I have all the detail in a massive 22mb file, but I'm not sending that to everybody (just Jason). If you do need that file, please let me know and I'll send it separately.

# Exhibit 23

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**From:** James, Robert  
**Sent:** Tuesday, April 20, 2004 1:20 PM  
**To:** 'Chad Lucero'  
**Cc:** Sacino, Claudia; Poulos, Matt; Torres, Martha; John Schohl (jschohl@medicis.com)  
**Subject:** Medicis AWP's

Chad, McKesson treats all Brand Rx suppliers and products alike. We mark each product 25% (WAC x 1.25) to get our Suggested Sell Price or List Price and let the process take over. We never sell at this price, its just a benchmark. However, this is the price that is surveyed by FDB and if the other wholesalers are at the same mark up, which most are, then that becomes the AWP markup and ultimately the AWP.

The reason we did this five years ago was to create business efficiencies and consistency in our BIS department, instead of having them come to us to ask what the markup was on a specific drug. Mark ups ranged from 20% to 33% and were inconsistent within suppliers as they merged or acquired product from another supplier. Most of the game playing has stopped and things have pretty much normalized at a 20% spread (1.25 markup) for Brand Rx, which has been extremely beneficial for our customers. This being said, you can still "set your AWP" by setting your WAC cost appropriately so that a 25% markup on top will get you the AWP that you desire. It's as simple as "pegging your desired AWP" based on company goals and the competitive landscape and multiplying by 0.80 which becomes your WAC price. (Example: say you want to set your AWP at \$125.00, then  $\times 0.80 = \$100.00$  for WAC price. That gets multiplied by 1.25 which = \$125.00). Why do you want to take the profitability away from the retail pharmacies by trying to use a spread of 16.2/3% when almost all other companies are getting a 20% spread. If you have any doubts about what I am saying, please contact Scott Johnson at Albertsons, Dave Vucurevich or Greg Drew at Rite Aid, Frank Seagraves at Wal Mart, or Frank Scorpiniti at Longs.

Medicis and all other Brand suppliers are considered as 25% markups or 20% spreads.

Please call me if you have questions. I will be happy to explain it to you. Take care.

Bob James  
 Vice President, Brand Rx Product Management  
 McKesson  
 One Post Street, 8th Floor  
 San Francisco, CA 94104  
 Phone 415-983-8755, Fax 415-732-2951  
 robert.james@mckesson.com

-----Original Message-----

**From:** Poulos, Matt  
**Sent:** Monday, April 19, 2004 1:23 PM  
**To:** 'Chad Lucero'; Torres, Martha  
**Cc:** James, Robert; Sacino, Claudia  
**Subject:** RE: Medicis AWP's

Chad,

Martha Torres is the contact for this end of the business.

Please contact Martha she will be able to discuss with you.

Matt

MCKAWP 0071694  
 CONFIDENTIAL

# Exhibit 24

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**From:** Silko, David  
**Sent:** Tuesday, September 28, 2004 7:20 AM  
**To:** Han, Frank; Eckel, Mike  
**Cc:** Chandler, Ferol  
**Subject:** FW: Aetna

**Importance:** High

Mike and Frank,  
I apologize for the really late response. I thought that I had sent this out the Monday after you sent it to me but I must have logged out before sending it and it got stuck in my "Drafts" Folder. I hate when that happens.....anyway, here are my thoughts.

Frank,

Can you provide some additional information for Mike with regard to specific information that you are working on for the Aetna Team and the timing to respond back to them?

Mike,

The call went very well and I believe that both Aetna and McKesson learned from the discussions. I think that we are at a point where they understand that we can not control the margin point (AWP) but they still want us to provide a guarantee against the spread. My Finance side can not see where we can help them with this issue as they face a challenge similar to the challenge that McKesson does. "Somebody else controls our profit margin." Not a good position for budgeting and forecasting and certainly not a long term business proposition. The greater challenge that I see for Aetna is that the number that controls their margin (AWP) appears by all accounts to be a made up number. (i.e. there is really no rhyme or reason behind the setting of the number) That has been articulated by many people in the industry as well as the government as they try to rationalize Medicare and Medicaid payments.

I think that it would be worthwhile for the three of us to talk prior to the next discussion with Aetna. This would give us an opportunity to all get on the same page and to see if we can come up with a rational argument for or against what Aetna is wanting. It would also give us another shot at thinking through an alternative although the only one that I can see at this point is more along the lines of a fee for service model. The major challenge that they will face to any change in their model is the government reimbursement and their existing contractual obligations.

Let me know if you want to have a conference call to review this issue and I will have Ferol set it up.

Thanks,  
David

-----Original Message-----

**From:** Eckel, Mike  
**Sent:** Friday, September 17, 2004 5:22 PM  
**To:** Silko, David  
**Subject:** Aetna

David:

I did not get a chance to ask you - how did the teleconference go with Aetna? What time line, if any, did you establish for a response to them regarding our thoughts on the margin calculation?

How do you plan to deliver it? I would suggest in writing, so I can share it with their senior management team.

I really appreciate your helping with this matter.

# Exhibit 25

**ATTACHMENT C.I**

**DECEMBER 2006 UPDATED DECLARATION ON CLASS CERTIFICATION**



UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

NEW ENGLAND CARPENTERS  
HEALTH BENEFITS FUND; PIRELLI  
ARMSTRONG RETIREE  
MEDICAL BENEFITS TRUST;  
TEAMSTERS HEALTH & WELFARE  
FUND OF PHILADELPHIA AND  
VICINITY; and PHILADELPHIA  
FEDERATION OF TEACHERS HEALTH  
AND WELFARE FUND; DISTRICT  
COUNCIL 37, AFSCME-HEALTH &  
SECURITY PLAN; JUNE SWAN;  
MAUREEN COWIE and BERNDARD  
GORTER,

Plaintiffs,

v.

FIRST DATABANK, INC., a Missouri  
Corporation; and McKESSON  
CORPORATION, a Delaware Corporation,

Defendants

Civil Action No. 1:05-CV-11148-PBS

**UPDATED DECLARATION OF RAYMOND S. HARTMAN  
IN SUPPORT OF PLAINTIFFS' MOTION FOR CLASS CERTIFICATION**

## **Executive Summary**

I have analyzed whether the members of the proposed Class of payors identified in the Plaintiffs' Complaint have been impacted, injured and damaged economically as a Class as a result of the alleged Five Percent Spread Scheme. I conclude that they were for the following reasons. The drugs subject to my analysis, branded self-administered drugs, relied upon the First DataBank (FDB) AWP as the benchmark for reimbursement. Assuming the allegations are true, Defendants McKesson and FDB inflated the AWP-WAC spread from 20% to 25% on all marked up drugs beginning in late 2001. While the determinants of the WAC reported to FDB did not change for the marked up drugs during this period, the related AWP increased by five percentage points of WAC. As a result, the costs at which providers (the retail pharmacy channel) obtained the drugs (WAC) were unchanged while the basis for reimbursement (AWP) by the Payor Class was increased relative to that provider acquisition cost. Since the Class includes all those and only those payors whose reimbursement rates were determined by the AWP of the marked up drugs and since the Scheme increased those AWP, the reimbursement rates on all transactions subject to the Class definition were inflated relative to the cost at which providers acquired those drugs. This five percent inflation is the basis for causation, injury and damages on a class-wide basis.

I have analyzed whether there exist standard formulaic methodologies to demonstrate the existence of and measure the extent of class-wide injury and damages. I conclude and demonstrate that such formulaic methodologies do exist; the methodologies make use of standard economic analysis and existing data sources. I demonstrate that the measure of damages is directly related to the reimbursement rates paid by Class members that were increased by the 5% inflation of the AWP. Based on the number of drugs involved in the Scheme, I conclude that damages are substantial.

This Declaration proceeds as follows. In Section I, I present my qualifications. In Section II, I identify the Class and review the allegations. I conclude that, if the allegations are proven true, the Class suffered Class-wide injury, the Class was damaged economically in the form of overcharges for drug reimbursements and those damages can be calculated on an aggregate Class-wide basis. In Section III, I present in detail the formulaic methodology that I will use to calculate Class-wide damages.

### **I. Qualifications**

1. My name is Raymond S. Hartman. I am Director and President of Greylock McKinnon Associates (GMA), an economic consulting and litigation support firm located in Cambridge, Massachusetts.

2. As I have discussed in prior testimony before this Court, I am an economist specializing in microeconomics, econometrics and the study of industrial organization. I have taught economics, conducted economic research and provided economic consulting in my areas of specialization for thirty years. I taught economics as an Assistant Professor and Associate Professor within the Department of Economics at Boston University over the period 1977-1988. I taught economics as a Visiting Associate

Professor and member of the Visiting Faculty at the School of Law, Boalt Hall, University of California at Berkeley over the period 1988-1993. I was a member of the research faculty at MIT over the period 1977-1982. Over the entire period since 1971, I have consulted to federal and state governmental bodies, private corporations, law firms, consulting companies, research organizations and international lending organizations. I have been a research referee for a variety of academic journals. I am the author of more than 100 refereed journal articles, book chapters and research/consulting reports.

3. I have submitted oral and written testimony before federal and state courts of law and regulatory commissions. My testimony as an expert witness has addressed anticompetitive behavior, merger efficiencies, breach of contract, employment discrimination, patent infringement, class certification and the estimation of damages in a variety of markets and industries including, but not limited to, the pharmaceutical industry, the health care services industry, the electric power industry, the banking industry, the copper industry, the defense industry, the cable TV industry, the tobacco industry, the electrical and mechanical carbon products industry, the medical devices industry and the construction industry. I have consulted in litigation involving a broader array of markets and industries.

4. I received a bachelor's degree in economics (*magna cum laude*) from Princeton University in 1969. I received a master's degree in economics from MIT in 1971 and a Ph.D. in economics from MIT in 1977. My Curriculum Vita is attached to provide specific and recent biographical and professional information (see Attachment A.1). Attachment A.2 identifies my recent testimony at deposition and trial. In this matter, Greylock McKinnon Associates is being compensated for my time at the rate of \$450.00 per hour.

## II. Purpose, Overview and Summary of My Analysis

### A. The Scope and Purpose of My Retention

5. I have been retained by Counsel to the named Plaintiffs and the Class in this matter.<sup>1</sup> The Class (named the *AWP McKesson/First Data Class*) consists of

**“Consumer purchasers:**

All individual persons who paid, or incurred a debt enforceable at the time of judgment in this case to pay, a percentage co-payment for the Marked Up Drugs during the Class Period pursuant to a plan, which in turn reimbursed the cost of brand-name pharmaceutical drugs based on AWP. The Marked Up Drugs are

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<sup>1</sup> *New England Carpenters Health Benefits Fund; Pirelli Armstrong Retiree Medical Benefits Trust; Teamsters Health & Welfare Fund of Philadelphia and Vicinity; and Philadelphia Federation of Teachers Health and Welfare Fund, District Council 37, AFSCME - Health & Security Plan; June Swan; Maureen Cowie And Bernard Gorter v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS.

all drugs identified in Exhibit A to the Second Amended Complaint and consist of certain brand-name drugs only.<sup>2</sup>

**Third-party Payors:**

All third party payors whose pharmaceutical payments for the Marked Up Drugs were based on AWP during the Class Period. The Marked Up Drugs are all drugs identified in Exhibit A and consist of brand-name drugs only.<sup>3</sup>

Excluded from the above-listed Classes are: (a) each defendant and any entity in which any defendant has a controlling interest, and their legal representatives, officers, directors, assignees and successors; (b) any co-conspirators; and (c) any governmental entities who purchased such drugs during the Class Period.

The Class Period is August 1, 2001 to March 15, 2005, when First Data disclosed that it had stopped surveying wholesalers.”

Excluded from the Class are: (a) each defendant and any entity in which any defendant has a controlling interest, and their legal representatives, officers, directors, assignees and successors; (b) any co-conspirators; and (c) any governmental entities who purchased such drugs during the Class Period. The Class Period is August 1, 2001 to March 15, 2005, when First Data disclosed that it had stopped surveying wholesalers.”<sup>4</sup>

6. I have been asked by Counsel to evaluate the effects Defendants’ activities (if proven as alleged in the *Complaint*) had on the members of the Class. I have been asked to analyze whether causation, liability and injury can be proven on a class-wide basis. I have been asked to evaluate whether aggregate injury to the Class can be measured and to identify possible formulaic methods for that measurement.

Since discovery and my analysis and calculations are ongoing, I reserve the right to supplement the opinions put forward in this Declaration as I receive additional data and information. In rendering my determinations, I have relied upon the materials

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<sup>2</sup> Plaintiffs reserve the right to modify the Class Definition based on class related discovery and/or merits discovery.

<sup>3</sup> Plaintiffs reserve the right to modify the Class Definition based on class related discovery and/or merits discovery.

<sup>4</sup> Second Amended Class Action Complaint, *New England Carpenters Health Benefits Fund, et al. v. First DataBank, et al.*, October 31, 2006 (hereafter *Complaint*), ¶¶ 153 & 154. The exact dates for the Class Period may be refined based upon discovery. The drugs subject to this *Complaint* are presented in Exhibit A to the *Complaint*; Plaintiffs reserve the right to modify the number of drugs and the Class Definition based upon class-related discovery and/or merits discovery.

I have been advised by Counsel that the Class definition may be expanded to include AWP’s published by either First DataBank (FDB) or MediSpan. This change in class definition would not alter my proposed methodologies or the conclusions I present in this Declaration. For purposes of this Declaration, any reference to AWP’s published by FDB should be assumed to include those related AWP’s published by MediSpan, if the Class definition is expanded in this fashion.

identified in Attachment B of this report. The materials relied upon are the types of materials reasonably relied upon by experts in my field in forming opinions and drawing inferences on a subject.

## **B. The Allegations**

7. The allegations in this matter are straightforward and simply framed. Defendants McKesson Corporation (McKesson) and First DataBank (FDB) are alleged to have recognized and wrongfully exploited the relationship between *the two most important list prices* in pharmaceutical markets – the AWP and the WAC. These list prices are the bases for most transaction prices in this market.

8. As recognized by this Court, the AWP has been and continues to be an important basis for drug reimbursement in this market.<sup>5</sup> For branded self-administered drugs, which are the only drugs included in the proposed class, the AWP is **the** basis for reimbursement. By definition, the Class will therefore include those branded self-administered drugs for which the reimbursement rate was determined by reference to the AWP published by FDB.

9. For the drugs subject to the Class definition, the AWP determines the amount paid to providers (retail pharmacies and other retailers) and the related WAC determines the cost of the pharmaceutical goods sold by those providers. The spread between AWP and WAC (or AWP – WAC) determines the profitability to retailers of providing specific drug products.<sup>6</sup> Changes in the spread will change retailer profitability, everything else equal. Increases in the spread will increase retailer profitability.

10. The AWP and WAC therefore are important market signals for innovator drug companies. Drug manufacturers analyze and identify the AWP, WAC and the related spread (AWP – WAC) deemed optimal for their drug products. Those AWP, WACs and/or spreads are reported to the three market price compendia (FDB, MediSpan and

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<sup>5</sup> In her Memorandum and Order re: Motion for Class Certification (hereafter *Memorandum and Order*), *In re: Pharmaceutical Industry Average Wholesale Price Litigation*, United States District Court District of Massachusetts, MDL No. 1456, Civil Action No. 01-12257, August 16, 2005, Judge Saris states (at p. 7), “Throughout the class period, from 1991 to the present, AWP has been the pricing benchmark for most pharmaceutical sales in the United States. (Hartman Decl. Attach. D ¶¶ 29-30; Schondelmeyer ¶ 36.)” In forming her opinion, Judge Saris relied upon Professor Ernst Berndt, who noted in his February 9, 2005 Report: “AWP has served as a reference or focal point, an industry standard for baseline reimbursement, and as such a fictional benchmark price from which discounts are frequently specified, directly or indirectly” (¶ 16); and “Recall that pharmacies are typically reimbursed by health plans/insurers/PBMs for drugs they dispense on the basis of a relatively simple formula, such as AWP - X% plus dispensing fee plus (occasionally) administrative fees. ... [A]lmost all single source brand drugs are contractually reimbursed using AWP” (at ¶¶ 49 & 55). Ernst R. Berndt, Report of Independent Expert Professor Ernst R. Berndt to Judge Patti B. Saris, *In Re Pharmaceutical Industry Average Wholesale Price Litigation*, MDL No. 1456, Civil Action No. 01-12257-PBS, February 9, 2005 (hereafter “Berndt Report”).

<sup>6</sup> Note that the designation “*Spread*” in this matter refers to the difference between the two manufacturer list prices, AWP and WAC. This meaning differs from that used in the MDL AWP litigation, where the designation “*Spread*” refers to the difference between AWP and ASP. Both differences are spreads; their definitions are adapted to and appropriate for the allegations at issue.

RedBook). Historically, manufacturers have been characterized as having specific AWP –WAC spreads (20%, 25%, other).

11. Defendants McKesson and FDB are alleged to have conspired to wrongfully increase the spread between the AWP and WACs reported by FDB for certain drug products from 20% to 25%. This alleged act has been called by Plaintiffs the “Five Percent Spread Scheme” or simply the “Scheme,” and the drugs impacted by the Scheme will be referred to as the marked up drugs.<sup>7</sup>

### **C. The Effects of the Alleged Scheme**

12. If the allegations put forward in the *Complaint* are true, as a matter of basic economics and the business practices of pharmaceutical markets, the following economic events and results occurred:

- a) Those AWP reported by FDB, which were related to their WACs by a spread of 20% prior to the implementation of the Scheme, were increased relative to their WACs by 5 percentage points to a spread of 25% as a result of the Scheme.
- b) Where reimbursement rates (allowed amount or AA) paid by Class members were determined formulaically by AWP as  $AA = \{\text{“AWP less } x\%” \text{ plus a dispensing fee}\}$ , the reimbursement rates were increased for those drugs, relative to the acquisition costs of the providers (which continued to be related to the WACs).
- c) The amounts paid by all or substantially all Class members for the relevant pharmaceuticals were inflated.<sup>8</sup>

### **D. The Impact of the Alleged Scheme Can and Should be Analyzed on a Class-wide Basis**

13. Assuming the allegations of the *Complaint* are proven true and focusing upon the brand-name self-administered drugs identified in Appendix A,<sup>9</sup> I conclude the following.

- a) In late 2001 or early 2002, Defendants conspired to alter the historical relationship between the two most important list prices used by innovator drug

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<sup>7</sup> *Complaint*, ¶ 10.

<sup>8</sup> As stated in ¶¶ 109 and 110 of the *Complaint*,

“... one manufacturer has stated, that ‘the AWP-WAC spread is the primary determinant of the end retail pricing of prescription drugs. As a result, changes in the spread will have a direct impact on retailer profitability as well as drug expenses for not only consumers but even more uniformly for health insurers and other third party payors.’”

“Another industry insider stated: Payors currently use AWP or average wholesale price as a basis for reimbursing retail pharmacy for providing RX’s to patients with insurance and by retail pharmacy as a basis for pricing cash prescriptions. Pharmacy reimbursement – a higher spread translates into higher reimbursement to retailers and mail order pharmacies. The usual reimbursement formula for private third party Medicaid RX’s in [*sic* – is] anchored off of AWP – so a higher markup will increase the reimbursement level at least in the short term.”

<sup>9</sup> The drugs listed in Appendix A to the *Complaint* are limited to brand-name self-administered drugs.



manufacturers. Specifically, they conspired to raise “the WAC-to-AWP spread to 25% for over four hundred brand-name drugs that previously had received only the 20% markup amount.” They effectuated the Scheme over the period 2002-2003. Once effectuated, the 25% spread has remained in place to this day.<sup>10</sup>

- b) The determinants of WAC are not alleged to have been altered by the conspiracy.<sup>11</sup> Hence, the costs at which providers (the retail pharmacy channel<sup>12</sup>) obtained the drugs were unchanged by the alleged conspiracy. However, relative to the provider acquisition cost, the AWP was increased.

14. The impact of the Scheme was Class-wide and uniform.

- a) Since its merger with MediSpan and certainly since August 2001, FDB was *the single source* (according to the FTC, “a monopolist”) for comprehensive, electronic integrateable drug price information for the pharmaceutical industry. FDB could use its position as a monopolist to raise the spread between AWP and WAC.<sup>13</sup>
- b) Because FDB was the single source of comprehensive, electronic integrateable drug price information, it was the source of AWP information for all or substantially all major market intermediaries (e.g., PBMs), retail providers and institutional payors (e.g., insurers) serving the Class.
- c) Since the Class includes all those and only those payors whose reimbursement rates were determined by AWP and since the Scheme increased those AWP, the reimbursement rates on all transactions subject to the Class definition were inflated.
- d) The impact was uniform across Class members: ***the AWP were increased.*** Those AWP were incorporated into the calculation of reimbursement rates for all Class members. AWP for the marked up drugs are published industry-wide and

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<sup>10</sup> *Complaint*, ¶¶ 8-11.

<sup>11</sup> The WAC is also known as the Direct Price (DP), catalog price, wholesale net price or book price; see *Complaint*, ¶ 37.

<sup>12</sup> See ¶¶ 54-58 of the *Complaint*.

<sup>13</sup> FDB’s market power allowed it to raise price; see ¶¶ 37-38 of the Federal Trade Commission Complaint (Complaint for Permanent Injunction and Other Equitable Relief Pursuant to Section 7A(g)(2) of the Clayton Act and Section 13(b) of the Federal Trade Commission Act, *Federal Trade Commission v. The Hearst Trust, The Hearst Corporation and First Databank, Inc.*, United States District Court for the District of Columbia, Civ. No. 1:01CV00734) (hereafter *FTC Complaint*) discussed below in the text at ¶ 17. Its market power allowed it to impose the alleged Scheme upon manufacturers; see ¶ 145 of the *Complaint*, which states “in 2003 one manufacturer indicated that it would ‘no longer report average wholesale prices (AWP) for its products [because of the Scheme],’ First Data reported to McKesson that this manufacturer appeared ‘to be playing hard ball and [First Data] just won’t play.’ First Data indicated that it would, then, ‘just assume the markup is 1.25.’ In this situation, when the manufacturer wanted to be assured that any disclosure of an AWP associated with its product was a price that ‘has not been authorized’ by it, First Data wrote back stating: ‘Wonderful. If we don’t report an AWP, the NDC will not be listed. It is the rules of the database. That database does not allow for statements such as your attorneys wrote below.’”

do not vary across segments of the industry. As a result, individual issues concerning variation in the information content of FDB's AWP's for particular drugs do not arise.

15. Class-wide analysis is feasible and the most effective way of demonstrating impact, corroborating liability and measuring damages.

- a) The impact of the Scheme upon Class members was increased reimbursement rates. For a given drug and payor, retailers or PBMs billed or charged Class members at  $(AWP - x\% + df)$ , where  $x$  is the percentage off AWP and  $df$  is the dispensing fee. While  $x\%$  and  $df$  may vary somewhat among Class members, the fact that AWP was inflated implied that the reimbursement rate or amount allowed (AA) was higher than it would have been absent the Scheme for all Class transactions.
- b) Existing data sources and analytic methods can be used to identify the fact that Defendants' conduct and conspiracy led to economic impact to the Class.
  - The results of a preliminary review of FDB's list prices (AWPs and WACs) have already been described in the *Complaint*, in aggregate and for specific drugs and drug manufacturers.<sup>14</sup> The resulting increases in the spreads have been documented in aggregate.<sup>15</sup> I reproduce that analysis for the single-source self-administered drugs at issue in this matter in Figure 1 below.
  - This increase can be documented for all relevant drugs (by NDC) using readily available FDB data. Indeed, I have already analyzed much of the necessary FDB data.
  - The observed clustering of spread increases during 2001-2002 is consistent with and supportive of the allegations of conspiracy in this matter. It is unlikely that it reflects the aggregate decisions of independent innovator drug companies, many of which were therapeutic competitors and some of which resisted retailer pressures to increase the spread.<sup>16</sup>
- c) Existing data sources and analytic methods can be used to measure the degree to which Defendants' conduct and conspiracy led to Class-wide aggregate economic injury.
  - FDB data provides the AWP's of all brand-name drugs subject to the Scheme. Once the date at which the Scheme inflated the AWP's of specific drugs (by NDC) is determined, aggregate impact can be calculated.
  - Denoting the average reimbursement rate for a given NDC in a given period as  $AA = \{AWP - x\% + df\} = (100\% - x\%)AWP + df$ , and denoting the increase in the AWP as  $\Delta AWP$ , the increase in the reimbursement rate is  $\Delta AA = (100\% - x\%) \Delta AWP$ .

<sup>14</sup> See *Complaint*, ¶¶ 10, 17, 129-131.

<sup>15</sup> See ¶ 10 of the *Complaint*.

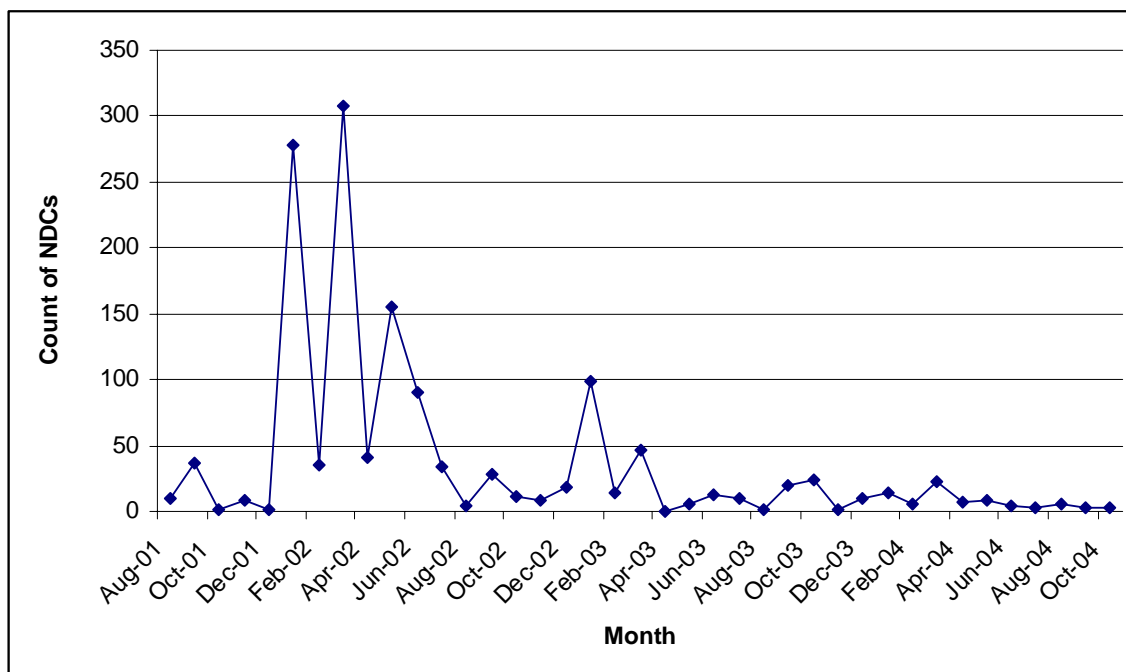
<sup>16</sup> Indeed, I understand that, in order to avoid detection and adverse manufacturer response, the Scheme was often effectuated at those times when a drug manufacturer reported increases in WAC to FDB and did not monitor carefully enough the changes in the spread that were imposed with the concomitant publication of increased WAC and AWP. See ¶ 139 of the *Complaint*.

If and when the Scheme was observed and contested by the manufacturer, I understand that the FDB had sufficient market power to defeat such objections; see ¶ 148 of the *Complaint*.



- This increase in reimbursement rates paid by Class members is attributable to all Class purchases by NDC.
- That number of units or scripts distributed to and reimbursed by Class members can be calculated using standard industry data sources. Total units/scripts produced and sold can be calculated from manufacturer data summarizing extended units/scripts produced and sold by NDC during the Class Period. Alternative, more-easily accessible sources of industry-wide survey data on total retail sales are Verispan and IMS. Such data are available from these vendors directly or indirectly through business entities which purchase and use data. Indeed, since Defendant McKesson and other wholesalers are major contributors of data to IMS, it is possible if not likely that the IMS data can be obtained from McKesson. Alternatively, the source data that McKesson provides to IMS with which IMS infers total market sales may be a useful basis measuring total market sales/scripts filled.
- Having measured total extended units/scripts reimbursed at retail, that portion reimbursed at allowed amounts calculated with reference to FDB AWP can be calculated using standard survey instruments and survey information described in more detail below.
- The effect, if any, of the Scheme upon rebates paid to the Class and the resulting changes in those rebate payments that would occur absent the Scheme can be analyzed and measured.

**Figure 1**  
**Number of NDCs with Spread Change from 20% to 25%**  
**August 2001 through October 2004**



- d) The analysis and measurement of damages can and should be conducted class-wide.
- The source of data to measure the inflation or overcharge implied by the Scheme is the same for all Class members – the FDB.
  - The sources of data for aggregate Class purchases is the same for all Class members – market-wide sales from manufacturers or market-data vendors (IMS, Verispan, perhaps others).
  - Survey methods exist to identify and sample a sufficient set of market entities to calculate that portion of total scripts filled by period for which the reimbursement was determined by the FDB AWP.
- e) There exists a standard formulaic methodology by which Class-wide damages can be calculated, which uses the data described above. The methodology is analogous to methodologies used to calculate the impact of price increases in a variety of contexts. For examples, such methodologies are used to calculate damages arising from illegal price increases generally;<sup>17</sup> to calculate damages in antitrust litigation, particularly recent pharmaceutical litigation;<sup>18</sup> to calculate damages in litigation related to the manipulation of the AWP;<sup>19</sup> and to analyze revenue changes from strategic price changes by producers in the pharmaceutical industry specifically and in all industries generally.

### III. Analysis

#### A. Industry Reliance upon FDB AWP Data

16. Class definition and Class membership is straightforward and unequivocal. It is determined simply by reference to the AWP in the reimbursement formulae used for specific transactions by third party payors (TPPs), consumers, PBMs and retailers.

17. Given the recent trend to computerized calculation and processing of drug claims, accessible and easily interactive AWP data bases are crucial to efficient claims

<sup>17</sup> Federal Judicial Center, *Reference Manual on Scientific Evidence*, 1994; see Daniel L. Rubinfeld, “Reference Guide on Multiple Regression,” pp. 417-469 and Robert E. Hall and Victoria A. Lazear, “Reference Guide on Estimation of Economic Losses in Damages Awards,” pp. 471-523.

<sup>18</sup> I have implemented such methods in the following matters: *In the Matter of Hoechst Marion Roussel, Inc., Carderm Capital L.P., and Andrx Corporation*, Docket No. 9293, United States of America Before Federal Trade Commission; *In re Terazosin Hydrochloride Antitrust Litigation*, Case No. 99-MDL-1317 Seitz/Garber, United States District Court for the Southern District of Florida; *In re Ciprofloxacin Hydrochloride Antitrust Litigation*, Master File No. 1:00-MD-1383, United States District Court for the Eastern District of New York. See also Daniel L. Rubinfeld and Peter O. Steiner, “Quantitative Methods in Antitrust Litigation,” *Law and Contemporary Problems*, 46(4), Autumn 1983; and Judge Edmund’s decision in certifying class *In re: Cardizem CD Antitrust Litigation*, Master File No. 99-MD-1278, 200 F.R.D. 326 (E.D. Mich. 2001).

<sup>19</sup> As stated by this Court in the *Memorandum and Order*, ¶¶ 14-16 & 57-60. See also my Declarations in the matter *In re: Lupron Marketing and Sales Practices Litigation*, United States District Court, District of Massachusetts, MDL No. 1430, CA No. 01-CV-10861.

administration.<sup>20</sup> FDB has been recognized as offering the best data base with those characteristics, and reliance upon FDB AWP data became standard practice by the end of the 1990s. These facts have been recognized by the Federal Trade Commission (FTC)<sup>21</sup> in their recent forced divestiture of MediSpan from FDB.

- a) For the four years prior to the Class Period, FDB and MediSpan were integrated and operated as a single entity, given the fact that the Hearst Corporation, owner of FDB, had acquired MediSpan through the acquisition of all capital stock of J.B. Laughery, Inc., on or about January 15, 1998.
- b) According to the FTC,<sup>22</sup> “[t]he principal products sold by ... FDB ... and ... Medi-Span prior to the Acquisition and Medi-Span’s integration into Defendant FDB, are comprehensive, integratable drug information databases (hereinafter ‘integratable drug data files’). These are electronic databases containing comprehensive clinical, pricing, and other information on prescription and non-prescription medicines. Integratable drug data files are uniquely capable of being readily integrated with other computerized information systems to help physicians, pharmacists, and others quickly obtain information important to decisions regarding the prescription, dispensing, and purchase of medicines. ... Drug information in other forms is not an adequate substitute for the provision of such information through integratable drug data files.”

As a result of the acquisition, FDB was “the sole provider of comprehensive, integrateable electronic data files providing AWP information throughout the retail pharmacy distribution chain, including most private third-party payors.”<sup>23</sup> Of

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<sup>20</sup> As noted by Professor Ernst Berndt in his paper, “The U.S. Pharmaceutical Industry: Why Major Growth in Times of Cost Containment?” *Health Affairs*, 20(2), 2001: “Recent technological progress, particularly involving information technology and telecommunications equipment, has dramatically changed the way in which third-party drug claims are processed at pharmacies, making covered insurance transactions much more convenient and less costly than they were a decade ago. Today, for example, the privately insured beneficiary usually pays a copayment or coinsurance to the pharmacy upon receipt of the prescription. After monitoring the pharmacy claim request to ensure compliance with formulary provisions, the third-party insurer then seamlessly reimburses the pharmacy electronically for the remainder, based on their contractual arrangement. For publicly provided drug insurance such as Medicaid, even when there is a copayment, the entire transaction is typically processed instantaneously and electronically. Technological developments involving electronic transactions have also facilitated inexpensive, instantaneous monitoring for safety and formulary compliance by PBMs.”

These “technological developments” would not be possible without a comprehensive and interactive electronic data base for AWP. FDB provides this comprehensive and interactive electronic data base.

<sup>21</sup> *FTC Complaint*. The background for and discussion of this merger and the FTC’s requirement for divestiture are discussed in the *Complaint* at ¶¶ 84-98.

<sup>22</sup> *FTC Complaint*, ¶¶ 12-13.

<sup>23</sup> According to the FTC (*ibid*, ¶¶ 35-38), “Until the Acquisition, Defendant FDB and Medi-Span were substantial, direct competitors within the relevant market of integratable drug data files in the United States, and faced little or no competition from other firms. Competition between Defendant FDB and Medi-Span was strong, vigorous, helped hold down prices, promoted product improvements, and improved the quality of service. After the Acquisition, and to this day, Defendant FDB held and holds a monopoly or near monopoly in the relevant market, [and] ... there remains little or no competition to Defendant FDB in the relevant market.”

course, when marketing its products, First Data made this known stating that it ‘provides you the same AWP prices used by Aetna, PAID PCS, MEDI, MET, most Blue Cross Blue Shield Plans, wholesalers and approximately 49 Medicaid programs’” (*Complaint*, ¶ 107).

- c) Given the FTC’s finding of monopoly or near-monopoly power by FDB in its relevant market (see also footnote 21 above), the FTC ordered FDB to divest itself of MediSpan as of December 19, 2001.<sup>24</sup> While this divestiture began to cure the problem of monopolization it did not cure the effects of the Scheme.
  - MediSpan’s calculations of AWP and the spread from WAC were inherited from FDB and their reported AWPs and spreads were identical<sup>25</sup>
  - A preliminary review of the MediSpan AWP data for the NDCs considered in this matter confirms that substantially all of the AWPs were identical to those published by FDB.<sup>26</sup>

## **B. The Formulaic Methodology for Calculating Aggregate Class-Wide Damages**

18. Given the pervasive market reliance upon FDB price data noted by the FTC, it would be reasonable to infer that the AWP for those drugs (delineated by NDC) affected by the Scheme would have been the basis for increases in the reimbursement rates paid for all or substantially all units manufactured and sold during the Class Period. This inference can and will be verified as part of the damage analysis conducted using the methods described in the next paragraphs.

19. In order to calculate aggregate Class-wide damages, one must calculate the extent to which the Scheme increased Class member reimbursement rates per transaction and the number of transactions subject to the Class definition. These calculations are standard and completed using readily available data, as discussed briefly in Section II above.

20. The extent to which the AWPs were increased by the Scheme is calculated by NDC as follows.

- a) Denote the wholesale acquisition cost (or its equivalent) reported by the manufacturer to FDB as WAC. The manufacturer’s determination of WAC is unaffected by the Scheme.

<sup>24</sup> See Manufacturers Divestiture Notice, [http://www.medispans.com/Products/MFG\\_divestiture\\_notice.aspx](http://www.medispans.com/Products/MFG_divestiture_notice.aspx) as accessed June 29, 2006.

<sup>25</sup> I have been informed by Counsel that the Consent Decree entered in November 2001, required FDB to sell the MediSpan business to Facts and Comparisons. The Decree required that FDB provide Facts and Comparisons with all FDB price information until Facts and Comparisons was able to develop its own production system.

<sup>26</sup> The analysis was done for 2002 and a portion of 2003. We did not have MediSpan data beyond that time.

- b) Denote  $AWP^{pre}$  as the pre-Scheme AWP and  $AWP^{post}$  as the post-Scheme AWP. Note that  $(AWP^{pre} - WAC)/WAC = 0.20$  and that  $(AWP^{post} - WAC)/WAC = 0.25$ . Note also that all three prices are readily found in the FDB data.
- c) Hence  $AWP^{pre} = 1.20 * WAC$ ;  $AWP^{post} = 1.25 * WAC$ ;  $\Delta AWP = AWP^{post} - AWP^{pre} = (1.25 - 1.20) * WAC = 0.05 * WAC$ ; and  $\Delta AWP / AWP^{pre} = 0.05 * WAC / 1.20 * WAC = 4.16666\%$ , which I round to 4.2%.
- d) Hence, the Scheme increased AWP by 4.2% for every relevant NDC.<sup>27</sup>

21. The extent to which the reimbursement rates (AAs) were increased by the Scheme is calculated by NDC as follows.

- a) The formula for reimbursement for brand-name self-administered drugs is well-known to be  $AA^{pre} = \{AWP^{pre} - x\% + df\} = \{(100\% - x\%) * AWP^{pre} + df\} = p * AWP^{pre} + df$ , where  $x\%$  and  $df$  have been described above and  $p = (100 - x)$ , which is expressed as  $0 < p < 1$ .<sup>28</sup>
- b)  $AA^{post} = p * AWP^{post} + df$ ;  $p$  and  $df$  remain unaffected by the Scheme.
- c)  $AA^{post} - AA^{pre} = \Delta AA = p * \Delta AWP = p * 0.05 * WAC$ .
- d)  $\Delta AA / AA^{pre} = p * 0.05 * WAC / (p * 1.20 * WAC + df) < p * 0.05 * WAC / p * 1.20 * WAC = 4.2\%$ , if the allowed amount is assumed to include the dispensing fee. If the allowed amount includes the ingredient cost alone,  $\Delta AA / AA^{pre} = 4.2\%$ .
- e) Hence, the Scheme increased the allowed amount reimbursed by NDC by less than 4.2%, the percentage increase in the AWP. If the dispensing fee is relatively small relative to AWP, the increase in reimbursement rates is approximately the same as the increase in AWP, 4.2%. If the dispensing fee is not included in the allowed amount, the increase is 4.2%.
- f) It is well recognized by testimony before this Court that for brand-name self-administered drugs,  $0.13 < x < 0.18$ .<sup>29</sup> Assuming on average  $x = 0.15$ ,  $p = 0.85$ . Therefore, averaged over all transactions by NDC,  $\Delta AA = 0.85 * 0.05 * WAC = 0.0425 * WAC$ .
- g)  $\Delta AA$  can be calculated in terms of the AWP or WACs reported by FDB.

<sup>27</sup> Note that a small sub-set of the NDCs listed in Appendix A experienced an increase in spread greater than the typical 5%. For these particular NDCs, the pre-Scheme spread was less than 20%, but was then increased to 25% post-Scheme (see, for example, Biaxin in the *Complaint*, ¶ 129). The methodologies presented in this Declaration can easily incorporate these NDCs into the damage calculations.

<sup>28</sup> Extensive testimony supporting this formulation has been presented to this Court by Experts for drug manufacturers and by Professor Berndt (see ¶¶ 15 and 49, Berndt Report, *op cit.*)

<sup>29</sup> Judge Saris, *Memorandum and Order*, at page 24 states, “It is important for the manufacturer to sell to the wholesaler at a price that allows both for the wholesaler’s take (usually 2%) and for the pharmacy to earn a profit from selling to TPPs and consumers at AWP minus 13% to 18%. (Berndt Report, ¶¶ 22, 24-27.)” *Emphasis added*. Both Mr. Young (Defendants’ expert) and I concur, see ¶ 42 of my December 16, 2004 Declaration.

22. Using industry-wide information from manufacturers, industry data sources (IMS, Verispan or other) and/or from McKesson data (see ¶ 14.c), I can calculate total units of any NDC prescribed, distributed and reimbursed for all drugs subject to this litigation by time period. Denote that total as Q. If 100% of a given drug produced and prescribed is reimbursed by the Class at rates determined by the FDB AWP, aggregate “gross” overcharge damages are calculated by NDC as

$$(1a) \quad \text{Damages}^g = \Delta AA * Q.$$

Given FDB’s monopoly cited by the FTC and given the continued use of the FDB data post divestiture by Facts and Comparison, it is likely that 100% or nearly 100% of all units of a given NDC subject to this litigation were reimbursed based upon the FDB AWP (subject to the caveats discussed in the next paragraph) and subject to the gross damage calculation in Equation (1a). Alternative variations of Equation (1a) are possible, depending upon the mix of FDB and IMS data used in the damage calculation.

23. The issue of rebates, which arose in the AWP litigation does not affect a finding of liability here. Here the fact of Class-wide impact and injury is determined directly by the Scheme.

24. While unlikely, the size of the damages induced by the impact and injury could be affected by rebate payments. If I am asked to account for any possible changes in rebates that have occurred as a result of the Scheme and net against the damage calculation any reduction in those rebate payments had the Scheme not occurred, this can be done on a class wide formulaic basis. I would proceed as follows.

Rebate payments are determined by a variety of factors.<sup>30</sup> To the extent that the Scheme had an effect on those factors, rebates may have increased with the Scheme. For example,

- a) If the Scheme increased the quantity of a relevant drug prescribed relative to therapeutic competitors not subject to the Scheme, rebates would have increased as a result of the Scheme, *if* rebates were calculated on a market share basis.
- b) If total units of a relevant drug prescribed and sold increased as a result of the Scheme, rebates would have increased as a result of the Scheme, *if* rebates were calculated on a total sales basis.
- c) If total units of a relevant drug were given more advantageous formulary placement as a result of the Scheme, formulary access rebates would have increased, *if* formulary rebates were paid.

25. The Scheme was effectuated by FDB and McKesson. The Scheme was advocated by retailers. The Scheme was at times resisted by manufacturers, and therefore was unlikely to offer the manufacturer benefits (discussed in the preceding paragraph) for which manufacturers paid rebates. Indeed, if the Scheme would have benefited the relevant manufacturers, they would have increased the spread to 25% on their own. I

<sup>30</sup> For example, market share rebates; formulary access rebates; total sales rebates.



therefore see no obvious reason to conclude that the Scheme benefited manufacturers and increased rebate payments paid to Class members.

To the extent that rebates are determined as a percentage of manufacturer revenue, rebates are unaffected by the Scheme.<sup>31</sup> To the extent that rebates are determined as a percentage of WAC, rebates are unaffected by the Scheme.<sup>32</sup>

However, for my analysis I make the *most conservative* assumptions (in favor of Defendants) regarding rebate payments and credits. Specifically, I assume

- a) All rebate payments are related to and determined *solely by total sales*. Market share rebates, formulary access rebates and any other rebates *are not paid*.
- b) Total manufacturer sales are booked at list price (i.e., AWP, which is not standard business or accounting practice) rather than net sales price (i.e., ASP, which is standard business and accounting practice).
- c) All rebates paid are distributed to the TPPs whose reimbursement rates have been inflated by the Scheme; no portion of the rebates is retained by the PBMs through which the drugs are distributed.
- d) Total rebates paid amount to approximately 5% of AWP.<sup>33</sup>
- e) Under these extreme assumptions, incremental rebates earned as a result of the Scheme are  $5\% \cdot (AWP^{\text{post}} - AWP^{\text{pre}}) = 0.05 \cdot (AWP^{\text{post}} - AWP^{\text{pre}}) = 0.05 \cdot (1.25 - 1.20) \cdot WAC = 0.0025 \cdot WAC$ .
- f) The increased reimbursement paid as a result of the Scheme is  $\Delta AA = 0.85 \cdot 0.05 \cdot WAC = 0.0425 \cdot WAC$  per unit reimbursed (§ 21.f above). Under the extreme assumptions regarding rebates developed above, for every unit incremental rebates are  $0.0025 \cdot WAC$ , or approximately 6% of the overcharge.<sup>34</sup>

If adjusted Class damages are calculated as Equation (1a) above and if rebates are increased by the Scheme to the extent implied by the assumptions above,

$$(1b) \quad \text{Damages}^{\text{fully-adjusted-tp}} = 94\% \cdot \Delta AA \cdot Q.$$

This measure of damages is extremely conservative.

<sup>31</sup> ASPs are not alleged to change as a result of the Scheme. While I have observed rebates = 5-8% of *net sales* for branded self-administered drugs (see § 30) of my September 3, 2004 Declaration in Support of Class Certification in the MDL AWP litigation), since ASPs do not change with the Scheme, rebates paid per unit sold are 5-8% of ASP *in both* the actual and but-for worlds. Hence, no correction for rebates is necessary.

<sup>32</sup> WAC is not alleged to change as a result of the Scheme. While I have observed rebates  $\approx 6\%$  of WAC (see § 30.b) of my September 3, 2004 Declaration in Support of Class Certification in the MDL AWP litigation), since WACs do not change with the Scheme, rebates paid per unit sold are 6% of WAC *in both* the actual and but-for worlds. Hence, no correction for rebates is necessary.

<sup>33</sup> This assumption follows from the previous two footnotes; see *ibid*.

<sup>34</sup> That is, incremental rebates relative to inflated reimbursement rates =  $0.0025 \cdot WAC / 0.0425 \cdot WAC = 5.9\%$ .

I declare that this declaration is true and correct.

**/s/ Raymond S. Hartman**

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Raymond S. Hartman  
Executed on December 20, 2006



**ATTACHMENT C.II**

**MARCH 2007 REBUTTAL DECLARATION ON CLASS CERTIFICATION**

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

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NEW ENGLAND CARPENTERS  
HEALTH BENEFITS FUND; PIRELLI  
ARMSTRONG RETIREE  
MEDICAL BENEFITS TRUST;  
TEAMSTERS HEALTH & WELFARE  
FUND OF PHILADELPHIA AND  
VICINITY; and PHILADELPHIA  
FEDERATION OF TEACHERS HEALTH  
AND WELFARE FUND,

Plaintiffs,

v.

FIRST DATABANK, INC., a Missouri  
Corporation; and McKESSON  
CORPORATION, a Delaware Corporation,

Defendants

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Civil Action No. 1:05-CV-11148-PBS

**REBUTTAL DECLARATION OF RAYMOND S. HARTMAN**  
**IN SUPPORT OF PLAINTIFFS' MOTION FOR CLASS CERTIFICATION**

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### EXECUTIVE SUMMARY

I have been asked by Counsel to the named Plaintiffs and the Class in this matter to review and respond to the opposition to Plaintiffs' motion for Class certification. I have considered and analyze below this opposition. My conclusions remain, that using standard economic analysis, I can demonstrate Class-wide impact from the Scheme that raised prices on the brand named drugs at issue and that proof of damages on a Class-wide basis is also possible.

- The 5% Scheme caused Class-wide impact and injury. The AWP's of hundreds of drugs (reflecting more than 1400 NDCs) were clandestinely raised by simply reprogramming the parameter in the FDB computerized information system which calculates the AWP's reported to the industry based on the WACs reported to FDB by the drug manufacturers. Since these AWP's are the contractual basis of reimbursement rates paid by the Class members, this reprogramming had an immediate impact upon transaction prices, an impact no different than that of a straightforward price fixing case.
- I can demonstrate that the Scheme caused Class-wide impact and injury using common Class-wide evidence. This demonstration is fully supported by McKesson and industry documents acknowledging the impact. Under no theoretical or evidentiary showing is it possible to credibly demonstrate complete mitigation of the impact and injury.
- The formulaic methodology that I have put forward provides an accurate calculation of damages to the Class resulting from the Scheme. The methodology is based upon standard economic methods and explicitly incorporates the realities of reimbursement calculations on the part of the Class members.

In rebuttal, Dr. Willig attempts to argue, in most cases through conjectured examples, that the impact and injury of the Scheme "could have been" mitigated by a variety of market responses, which "may" therefore necessitate individualized examination of Class members. His attempts fail. He offers no factual evidence demonstrating that such mitigation was possible or did occur, overall or for individual Class members.

- He offers no factual evidence that any Class-member TPPs had knowledge of the Scheme. He offers no evidence that TPPs made use of such knowledge to renegotiate reimbursement rates in ways that mitigated the economic injury induced by the Scheme.
- He offers no factual evidence that any PBMs knew of the Scheme until it had been ongoing for some period of time. More importantly, the evidence he does provide indicates that only one PBM came to realize that some changes were underway though even that PBM nowhere acknowledges the actual Scheme at issue. However, the evidence indicates that this PBM's information was incomplete, and that the PBM was ambiguous about whether and how to use the information to its benefit or to the benefit of its client TPPs.
- I find no evidence in discovery materials or in the public press that indicates or even suggests that other PBMs and TPPs knew of or acted upon knowledge of the 5% Scheme. Indeed, unlike the AWP case, there is no need to examine whether numerous governmental reports, press stories, congressional hearings and the like transmitted knowledge to the market place. And there is nothing in the record to suggest that members of the Class had such knowledge.
- Absent a showing of actual knowledge or actual competitive response, Dr. Willig presents measures of trends in drug reimbursement over 1995-2005. He either asserts or implies that the changes he observes are a direct response to the 5% Scheme, when under proper analysis it is clear that they are not. All of the variations or changes in reimbursement terms he cites either occurred prior to implementation of the 5% Scheme or were induced by general market trends that began prior to the implementation of the 5% Scheme and merely continued during its implementation. Since they would have occurred absent the Scheme, proper economic analysis requires holding them constant for the purpose of analyzing the impact of the Scheme. I demonstrate this fact using Dr. Willig's own data for a ten-year trend summarizing discounts off AWP and dispensing fees revealed in the reimbursement rates paid by a large sample of TPPs.

Thus, my original opinions regarding Class-wide impact, injury and the calculation of the resulting economic damages remain unchanged.

## I. QUALIFICATIONS

1. My name is Raymond S. Hartman. I have previously presented my qualifications to this Court in this matter, *New England Carpenters Health Benefits Fund, et al. v. First*

*Databank, Inc., and McKesson Corporation.*<sup>1</sup> Attachment A summarizes qualifications, including deposition and trial testimony, arising since submission of my last declaration. In performing this analysis, I have cited the materials listed in Attachment B.

## II. OVERVIEW AND ANALYSIS

2. I have been asked by Plaintiffs' Counsel to review and critically respond to the opposition of McKesson to Class certification, specifically to the declaration of Dr. Willig.<sup>2</sup> I find that the opposition fails to alter the opinions set forth in my Affirmative Declaration in Support of Class Certification for several reasons.

3. First and foremost, Dr. Willig's analysis fails because he mischaracterizes the 5% Scheme and the market's ability to respond to it. The Scheme was simply and immediately effectuated whenever a relevant drug manufacturer, who previously used an AWP-to-WAC spread of 1.20, reported its new WAC to FDB. At that time, FDB merely flipped a computer switch that increased the spread to 1.25. The Scheme was thereby effectuated immediately and clandestinely for the relevant NDCs. Any entity reimbursing on the basis of FDB AWP's thereafter was impacted and injured. Dr. Willig incorrectly asserts that the market could negate the impact and injury arising from this Scheme. To do so, FDB's pricing practices and procedures had to be sufficiently transparent (indeed,

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<sup>1</sup> Declaration of Raymond S. Hartman in Support of Plaintiffs' Motion for Class Certification, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc., and McKesson Corporation*, United States District Court District of Massachusetts, C.A. No. 1:05-CV-11148-PBS, July 14, 2006; updated December 20, 2006 (hereafter *Hartman FDB Declaration and Hartman Updated FDB Declaration*). I shall also refer, where necessary, to my September 27, 2006 Declaration, *Impact and Cost Savings of the First Databank Settlement Agreement*, submitted in support of the proposed *FDB Settlement Agreement* (hereafter *Hartman FDB Settlement Declaration*).

<sup>2</sup> Expert Report of Robert D. Willig, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc. and McKesson Corporation*, United States District Court, District of Massachusetts, C.A. No. 1:05-CV-11148-PBS, January 24, 2007 (henceforth *Willig Declaration*).

*perfectly transparent*) to render the 5% Scheme evident to the preponderance of relevant competitive entities *almost immediately* and competition among PBMs had to be *sufficiently perfect* to compete away the impact of the Scheme on the Class-member payors through immediate contract renegotiations. In real-world markets, such conditions are impossible. Certainly, no evidence has been presented to support assuming such conditions. Dr. Willig incorrectly infers that competition did work so effectively that *everything (or enough things) else did* change as a direct result of the implementation of the 5% Scheme to negate its impact and injury. These assertions fail as evidenced by the data and discovery materials.

4. Furthermore, Dr. Willig misapplies basic principles of economic theory to complex markets with no support from actual evidentiary materials.

- a) Dr. Willig's testimony offers a limited historical review of trends in pharmaceutical markets and in patterns of reimbursement for self-administered drugs (SADs). He introduces hypothetical variations that *could occur* in the determinants of drug reimbursement.<sup>3</sup> However, he offers little or no evidence of actual changes in the determinants of reimbursement that *have occurred in direct response* to the challenged conduct.
- b) Dr. Willig deconstructs my formulaic damage methodology into its constituent elements, but only analyzes how each element "could" or "can" or "might" or "may have" or "could have" changed in response to the 5% Scheme. In some places, he asserts that such changes "could be" sufficiently large so as to either eliminate any injury arising from the 5% Scheme<sup>4</sup> or even make the Plaintiffs better off as a result of the 5% Scheme.<sup>5</sup>

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<sup>3</sup> The elements or determinants of reimbursement include, but are not limited to, the discount off AWP (d), the dispensing fee (df), the rebate-pass-through percentage, the administrative fees paid to PBMs, the design of tiered co-pays and their average level, the duration of contracts and the terms of renegotiation.

<sup>4</sup> See *Willig Declaration*, ¶ 43, where Dr. Willig states "My analysis of the role of PBMs in the self-administered branded prescription drug distribution business shows that PBMs facilitate the operation of market mechanisms that cause TPP reimbursement rates to return to or retain their levels that prevailed prior to the artificial change following the change in the AWP/WAC ratio and artificial inflation in AWP."

<sup>5</sup> See *Willig Declaration*, ¶ 82. I note in passing that if the equilibrium analysis Dr. Willig puts forward in his ¶¶ 32-38 were correct (*and it is not*), the market will return to the equilibrium that existed prior to the implementation of the 5% Scheme and the ***TPP Class members cannot be made better off***.

- c) Dr. Willig incorrectly assumes a model of perfect transparency for this market. That is, he assumes that every participant in the market (drug manufacturers, wholesalers, PBMs, TPPs, TPAs) knew everything, immediately, in the same way regardless of how hidden the information may have been. This belief is made evident at his ¶ 40, where he asserts “There is no economically meaningful reason why the character of the dynamics of the responses to the settlement would differ significantly from responses to the AWP/WAC ratio change.” In this reference, he is comparing the market response to the very public announcement of the *FDB Settlement Agreement* in this matter relative to the market response to the conspiracy that FDB and McKesson aggressively attempted to keep secret.<sup>6</sup>

Belief that information in these markets is that transparent and that these two market responses would be the same is unsupported by economic theory and empirical event studies. Comparable assertions would be the following:

- Announcement of a product recall would have the same effect upon economic variables of interest (product prices, equity values) as would non-public information regarding product performance secreted by the relevant product manufacturer.
- Announcement of an informal FDA warning or a formal requirement of a black box warning would have the same effect upon economic variables of interest (product prices, amounts demanded, equity values) as would non-public preliminary indications of product performance, efficacy and/or safety.

Economic theory and practical business realities predict that in both of these examples non-public information would have limited market effects.<sup>7</sup> Since knowledge of the price impacts of the Scheme was limited prior to the public announcement in the Settlement, as a matter of economic theory and business realities the effects of that knowledge were limited.

- d) Where information is not transparent, Dr. Willig relies upon an equally unwarranted theory of perfect, instantaneous competition, which to him seems to have the following tenets.
- Perfect diffusion of the relevant price information concerning the 5% Scheme would immediately result from competition by the important players (read

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<sup>6</sup> In order to avoid detection and adverse market response, I understand the Scheme was often effectuated at those times when a drug manufacturer reported increases in WAC to FDB and many competitive entities did not monitor carefully enough the changes in the spread that were imposed with the concomitant publication of increased WAC and AWP. See ¶ 134 of the First Amended Class Action Complaint, *New England Carpenters Health Benefits Fund, et al. v. First Databank, Inc. and McKesson Corporation* (hereafter *Complaint*). If and when the Scheme was observed and contested by the manufacturer, I understand that FDB had sufficient market power to defeat such objections; see ¶ 135-6 of the *Complaint*.

<sup>7</sup> Indeed, I have formally measured the differential impact of public versus non-public information in regard to product quality and product recalls; see R. Hartman, “Product Quality and Market Efficiency: The Effect of Product Recalls on Resale Prices and Firm Valuation,” *The Review of Economics and Statistics*, 69(2), May 1987.



PBMs) in the market.<sup>8</sup> Indeed, since “PBMs’ function is to intermediate between retail pharmacies, manufacturers and TPPs,” the PBMs “use[d] their size and access to data [to so] mediate” (his ¶ 67).

- PBMs would immediately compete with one another by passing through to TPPs 100% of an available increase in their margins, thereby forgoing completely and immediately any opportunity to increase their own bottom line.
- This assertion portrays PBMs as disinterested parties, almost non-profit ombudsmen, mediating pricing and contract disputes among a variety of contesting entities and bringing reimbursement rates back to pre-5% Scheme levels (see footnote 4 above). As discussed below, this characterization of PBM competition with regard to this alleged Scheme is incorrect. PBMs are profit-maximizing entities, with agendas of their own, and reasons to hold or withhold information concerning the Scheme for their competitive advantage.

5. See Attachment C for a more detailed analysis of these issues.

### **III. PROPER ANALYSIS CONFIRMS IMPACT AND INJURY TO THE CLASS**

6. Dr. Willig’s analysis fails to alter my conclusions regarding impact, injury and the calculation of damages. Dr. Willig offers only a broad overview of the variety of factors determining reimbursement for SADs. While all of the factors that he identifies do contribute to the determination of actual transactions prices (reimbursement rates), the major factor in that reimbursement formula remains the AWP.

He argues that as these other factors change over time, such changes “could” negate the injury induced by the 5% Scheme. He is correct in conjecturing that these other factors “could” have so changed in response to the Scheme. However, Dr. Willig has presented no evidence linking these changes to the 5% Scheme. Indeed, proper analysis indicates the contrary. That is, although factors affecting reimbursement rates have changed, they did not change in response to the 5% Scheme.

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<sup>8</sup> The competitive paradigms he espouses are more appropriate to the markets with which he has demonstrated more compelling qualifications. Much of his research, publications and consulting seems to be related to telecommunication, power, transportation, and high tech industries.

7. Dr. Willig asserts that my analysis fails because I analyze the changes in reimbursement rates induced by the 5% Scheme, *everything else equal*. He incorrectly asserts that I ignore, *or hold equal*, all other changes in all other factors that he introduces. I do not. I recognize those changes and recognize that proper analysis indicates that changes in *those other factors* have been induced by competitive market forces **generally** over 1990-2005, **not by the 5% Scheme**. Proper comparative static<sup>9</sup> analysis requires *holding those changes constant or equal* for the purpose of demonstrating impact and injury and for calculating damages.

8. Instead, Dr. Willig either asserts or implies, with no supporting evidence that observed changes in reimbursement terms (discounts, dispensing fees, rebate-pass-through percentages, PBM administration fees, etc.) are induced by the 5% Scheme. There is no such evidence. Indeed, all of the variations he cites either **occurred prior to** implementation of the 5% Scheme or were induced by general market trends **that began prior to** the implementation of the 5% Scheme and continued unaffected after the Scheme was implemented. Since they would have occurred absent the Scheme, proper economic analysis requires holding them constant for the purpose of analyzing the impact of the Scheme.

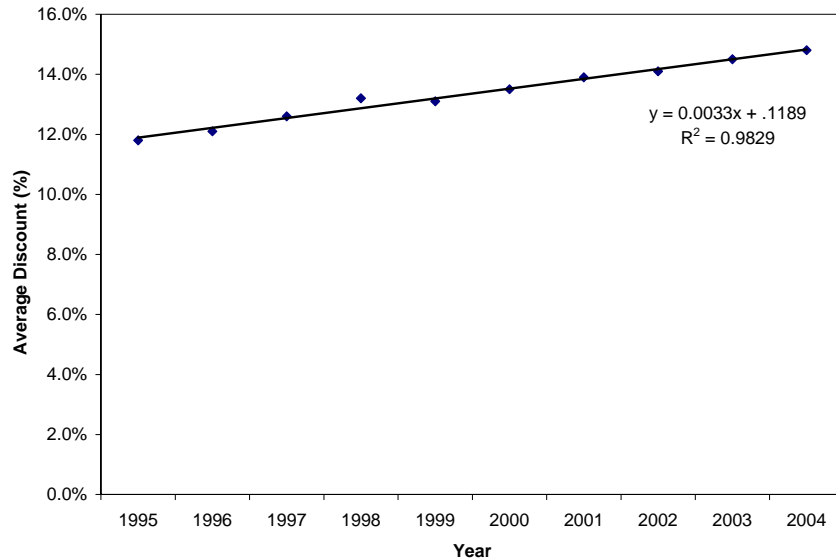
9. Dr. Willig's own data support my interpretation and my assumptions. In his Table 2, he presents average discounts off AWP (d) and average dispensing fees (df) for retail and mail order branded prescription reimbursement. I analyze these data using regression methods in Attachment E to this Declaration. In Figures 1.a and 1.b, I

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<sup>9</sup> I address his discussion of undergraduate comparative statics (found in his ¶¶ 32-36 and his footnote 39) in Attachment C.

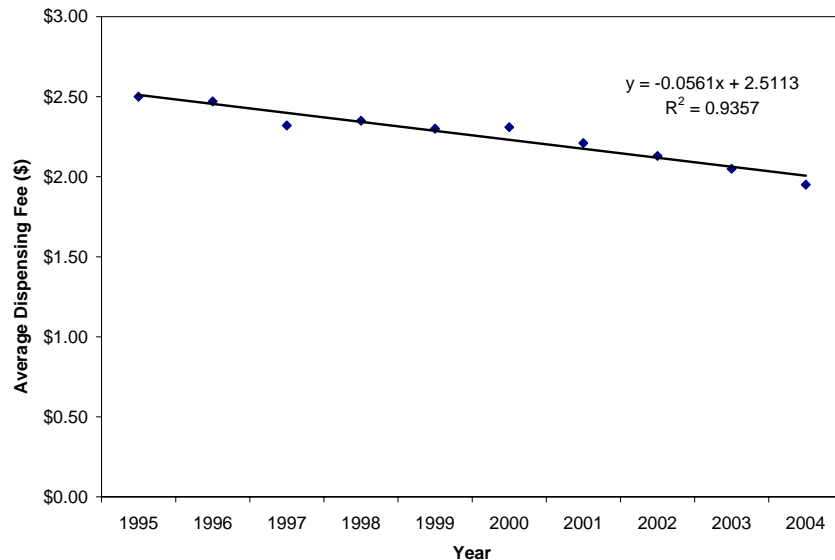
reproduce the regression lines summarizing market-wide trends for average discounts off AWP (d) and average dispensing fees (df) at retail pharmacies.<sup>10</sup>

**Figure 1.a**  
**Average Retail Reimbursement Discount off AWP**  
**for Brand Drugs (1995-2004)**



<sup>10</sup> Measures of df and d at mail order confirm the same trends; see Attachment C, Figures 1.c and 1.d. In addition, Attachment C further elaborates in much greater detail how the real world data put forward by Dr. Willig demonstrates that his conjectures are incorrect and unrealistic.

**Figure 1.b**  
**Average Retail Dispensing Fee for Brand Drugs (1995-2004)**



Note the following:

- a) If there were some response in d and df to the 5% Scheme, evidence should be apparent in measurable divergences from the historical trend. Specifically, in 2002-2004, we should see that discounts are above trend and dispensing fees are below trend, by an observable amount. **They are not.**
- b) Discounts (d) at retail (Figure 1.a) are precisely on trend in 2003 and slightly below trend in 2002 and 2004.
- c) Dispensing fees (df) at retail (Figure 1.b) are above trend in 2002 and slightly below trend in 2003 and 2004.
- d) Any deviations from trend are much less important than the actual trends themselves. Over 1995-2005 discounts off AWP were rising while dispensing fees were falling, both at retail and at mail order.
- e) Indeed, these revealed patterns support the motives for the allegations in this matter: that is, *everything else equal* (i.e., **given these trends**), retailers approached McKesson and FDB to alleviate their profit squeeze. The 5% Scheme was a method to do so.<sup>11</sup>
- f) Analysis of these data refutes Dr. Willig's assertions of fact and his conjectures concerning what "could occur." If the Scheme induced a measurable Class-wide response in 2002-2004, increases in discounts (d) and decreases in dispensing fees (df) should deviate, *by a substantial amount*, from market trends. They do not;

<sup>11</sup> It is interesting to note that not only would retailers benefit but so would mail order pharmacies. Many PBMs own their own mail order facilities and would benefit from increases in the AWP when contracts were not renegotiated with their TPPs, a clear incentive for PBMs to not inform their clients of the Scheme.

rather they reveal *a continuation of trends* that were well underway before the 5% Scheme was implemented.

- g) These observed trends are part of *everything else held equal* across the actual (“post”) and but-for (“pre”) worlds.

10. Furthermore, substantial discovery materials demonstrate that McKesson understood the impacts of the Scheme upon payors; that these impacts would not be renegotiated away; and that economic injury would result.<sup>12</sup>

#### IV. MY AFFIRMATIVE ANALYSIS

11. In the updated December 20, 2006 version<sup>13</sup> of my original July 14, 2006 Declaration, I maintained the assumption that the allegations of the *Complaint* are true. Given those allegations, in addition to my analysis of the structure of the industry, the conduct by the relevant competitive entities in the industry and the evolution of competition in the industry since 1990,<sup>14</sup> I concluded that class-wide analysis was feasible and the most effective way of demonstrating impact, corroborating liability and measuring damages.

12. In measuring damages, I took the standard reimbursement formula for Class member TPPs:

$$(1) \quad \text{Allowed Amount (AA)} = \text{AWP} (1.00 - d) + df,$$

<sup>12</sup> See Attachment F for a summary of McKesson documents which confirm:

- the benefit of the increase in the AWP/WAC spread to its customers (retailers);
- the continued benefit of the 5% Scheme to its customers even in 2004, certainly suggesting that the increases due to the 5% Scheme were not negotiated away; and
- the existence of industry trends.

<sup>13</sup> *Hartman Updated FDB Declaration*, ¶¶ 12-13.

<sup>14</sup> Some of which is developed in my September 3, 2004 Declaration in Support of Class Certification in, *In re Pharmaceutical Industry Average Wholesale Price Litigation*, MDL No. 1456, 01-CV-12257-PBS,. I have been extensively involved in pharmaceutical litigation since the *In Re Brand Name Prescription Drug* litigation.

where  $d$  is the percentage discount off AWP and  $df$  is the dispensing fee.<sup>15</sup> I remarked that while  $d$  and  $df$  may vary somewhat across Class members, the fact that AWP was inflated by the 5% Scheme implied that the reimbursement rate or amount allowed (AA) was higher than it would have been absent the Scheme. I note here that while  $d$  and  $df$  may vary across Class members, the most important determinant of reimbursement (AA) in Equation (1) is the AWP.

13. I proposed to calculate damages as follows. I assumed that while  $d$ ,  $df$  and administrative fees paid to PBMs by TPPs have been changing over time, they **did not change in response** to the 5% Scheme. Hence, regardless of their variation over time and across TPPs, at any point in time, the effect of the 5% Scheme upon reimbursement rates (AA) is determined almost entirely by the impact of the Scheme upon AWP.

14. More specifically, damages are to be calculated as follows. Denoting the pre-Scheme AWP as  $AWP^{pre}$  and the post-Scheme AWP as  $AWP^{post}$ ; and calculating the pre-Scheme allowed amount,  $AA^{pre}$ , and the post-Scheme allowed amount  $AA^{post}$  from Equation (1);<sup>16</sup> the extent to which reimbursement rates (AAs) were increased by the

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<sup>15</sup> Extensive testimony supporting this formulation has been presented to this Court by Experts for drug manufacturers and by Professor Berndt (see ¶¶ 15 and 49, Ernst R. Berndt, Report of Independent Expert Professor Ernst R. Berndt to Judge Patti B. Saris, *In Re Pharmaceutical Industry Average Wholesale Price Litigation*, MDL No. 1456, Civil Action No. 01-12257-PBS, February 9, 2005 (hereafter “Berndt Report”)). Judge Saris has recognized this formulation of drug reimbursement (see her Memorandum and Order re: Motion for Class Certification (hereafter *Memorandum and Order*), *In re: Pharmaceutical Industry Average Wholesale Price Litigation*, United States District Court District of Massachusetts, MDL No. 1456, Civil Action No. 01-12257, August 16, 2005, pp. 24-25).  $d$  is the percentage discount off AWP, expressed here as  $0.00 < d < 1.00$ . Defendants’ Expert Young in the AWP matter, found the percentage discount to range between 14 and 18% (see Rebuttal Declaration of Steven Young, *In re Pharmaceutical Industry Average Wholesale Price Litigation*, MDL No. 1456, 01-CV-12257-PBS, ¶ 134).

<sup>16</sup> One can think of  $AWP^{pre}$  and  $AA^{pre}$  as but-for values and  $AWP^{post}$  and  $AA^{post}$  as actual values.

Scheme (by NDC) is denoted as  $AA^{\text{post}} - AA^{\text{pre}} = \Delta AA$ .<sup>17</sup> Given total units prescribed and reimbursed as  $Q$ , aggregate overcharge damages by NDC are calculated as

$$(2) \quad \text{Damages} = \Delta AA * Q.$$

15. The data and data sources required to implement this damage calculation are identified in my December 20, 2006 Updated Declaration;<sup>18</sup> they are common to the Class. I demonstrated that the analysis and measurement of damages can and should be conducted Class-wide.<sup>19</sup> My proposed formulaic methodology is analogous to methodologies used to calculate the impact of price increases in a variety of contexts.<sup>20</sup> While the size of the damages induced by the impact and injury could be affected by rebate payments, I have demonstrated that the impact of such changes can be calculated and will be small.<sup>21</sup>

#### V. DR. WILLIG'S ASSERTION THAT VARIATION AMONG CLASS MEMBERS DEFEATS CLASS CERTIFICATION IS INCORRECT

16. Dr. Willig asserts, incorrectly, that issues of individuality and variation across Class members render the class device inappropriate for this litigation because of the

<sup>17</sup> Specifically, using Equation (1),  $AA^{\text{pre}} = AWP^{\text{pre}} (1.00 - d) + df = p * AWP^{\text{pre}} + df$ , where  $p = (1 - d)$  and  $0 < p < 1$ . Similarly,  $AA^{\text{post}} = p * AWP^{\text{post}} + df$ . Since  $p$  and  $df$  (and administrative fees paid to PBMs) are not altered in direct response to the Scheme,  $AA^{\text{post}} - AA^{\text{pre}} = \Delta AA = p * \Delta AWP$  is the impact of the Scheme upon Class member reimbursement per prescription. The formal analysis is found in ¶¶ 15, 20-22 of my December 20, 2006 Updated Declaration.

<sup>18</sup> *Hartman Updated FDB Declaration*, ¶ 15.

<sup>19</sup> *Ibid.*, ¶ 15.d).

<sup>20</sup> *Ibid.*, ¶ 15.e).

<sup>21</sup> In fact, deposition testimony in this matter confirms that rebates are typically not paid based on AWP benchmarks. Freebury testified that ESI is the only major PBM with AWP-based rebates and that AstraZeneca renegotiated with ESI to eliminate or reduce the AWP-based rebates on the grounds that AZ did not change their WACs and should not be penalized for these increased AWP. This testimony undermines Dr. Willig's conjecture that greater rebates "could" or "would" broadly offset the cost of the 5% Scheme. (Deposition of John Richard Freeberry, In re Pharmaceutical Industry Average Wholesale Price Litigation, MDL No. 1456, 01-CV-12257-PB, pp. 126-130, May 20, 2004).

extensive “individual inquiry ... required” of each Class member. This is a familiar Defense argument. These arguments are not compelling.

17. There is absolutely no market which does not involve variation across the individuals in the market. If variation in the factual situations of individuals constituting a market rendered aggregate economic analysis impossible unless each and every individual were explicitly included in the analysis, all standard and accepted forms of economic analysis would be impossible. The following *illogical* conclusions would ensue.

- a) All econometric analysis and forecasting which rely upon samples of heterogeneous economic entities and/or individuals *would be unreliable and without merit*. Such analysis and forecasting calculates “averages” or “expected values” of economic variables, such as prices and reimbursement rates, rather than the exact amount for each individual or economic entity. This conclusion would hold for all applied econometric research and analysis.
- b) Innovator drug manufacturers *would be wasting resources* if they developed and relied upon aggregate models and sample data (where the samples include quite heterogeneous consumers and physicians) to calculate and forecast the following: aggregate impact of promotional activity upon product demand; aggregate impact of innovator-product launch price upon aggregate demand and market share; aggregate impact upon demand of alternative price discount and rebate strategies; and the aggregate impact upon demand of generic launch.
- c) Antitrust damages *could never* be calculated unless the actual world and the but-for world of *all* individuals harmed by the antitrust violation were explicitly analyzed and measured. In short, antitrust damages *could never* be calculated. Certainly, the courts and well-known academics would disagree.<sup>22</sup>

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<sup>22</sup> While not a class action, Daniel Rubinfeld and Peter Steiner discuss regression methods to assess average price impacts and damages for a large group of plaintiffs in a pharmaceutical market (sales of ampicillin) subject to the same individual variabilities found here; see their discussion of *In re Ampicillin Antitrust Litigation*, 88 F.R.D. 174 (D.C. Cir. 1983) in D.L. Rubinfeld and P.O. Steiner, “Quantitative Methods in Antitrust Litigation,” *Law and Contemporary Problems*, 46(4), Autumn 1983. See also Daniel Rubinfeld, “Reference Guide on Multiple Regression,” pp. 179-227; and Robert E. Hall and Victoria A. Lazear, “Reference Guide of Estimation of Economic Losses in Damages Awards,” pp. 277-332; both appearing in *Reference Manual on Scientific Evidence*, Second Edition, 2000, West Group.

Note that Daniel Rubinfeld is the Robert L. Bridges Professor of Law and Professor of Economics and is the Director of the Program in Law and Economics, University of California at Berkeley.



- d) No class *would ever* be certified. Hence, the courts that certified the classes cited in footnote 18 to my December 20, 2006, FDB Declaration or courts that have certified classes in markets for other pharmaceuticals have done so in error.<sup>23</sup>

18. Dr. Willig's position may be more modest. He may believe that heterogeneity and variation among economic entities (and potential Class members) generally does not defeat econometric analysis, damage calculation and Class certification. However, he may believe that the specific variability in *this* market and *this* matter is *much greater* than that found in other markets and matters, and because variability across Class members is incrementally greater in this matter, Class certification is impossible and "individual inquiry would be required."

If true, however, Dr. Willig must put forward his bright-line threshold of variability and indicate how it is that this market and this matter exceed that threshold while all other markets identified above do not. He has not done so.

19. While Dr. Willig has introduced and appealed to variation and how such variation will vary the quantum of impact, injury and damages to individual TPPs, it is my understanding that it is unnecessary to calculate individual damages at this stage. It is my understanding that the formulaic methods that I have proposed must provide a sufficiently accurate calculation of aggregate damages.

My proposed methods will provide an accurate calculation of aggregate damages. Classes have been certified in matters alleging antitrust violations and fraudulent marketing practices in pharmaceutical markets and other markets where there was as much or more variability across individual Class members than is found in this market.

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<sup>23</sup> See, for example, *In re Cardizem CD Antitrust Litigation*, Master File No. 98-MD-1278, 200 F.R.D. 326 (E. D. Mich. 2001); *In re Terazosin Hydrochloride Antitrust Litigation*, Case No. 99-MDL-1317 Seitz/Garber, United States District Court for the Southern District of Florida; and *Cipro Cases I and II*, Judicial Council Coordination Proceeding Nos. 4154 and 4220 (Superior Court, San Diego County).

The standard formulaic methods that I have proposed here were implemented in those matters to calculate damages. The methods rely upon survey information to develop representative average measures of prices or reimbursement across class members.

Indeed, Dr. Willig himself has put forward the type of survey information that I would use. Specifically, in my Figures 1.a and 1.b, I have reiterated his 10 years of average discounts off AWP (d) and dispensing fees (df) for a large sample of TPPs for retail pharmacies. Other sample information exists to enrich Dr. Willig's averages. I have seen individual TPP values of average d and df over time that are tightly distributed around Dr. Willig's averages. The use of such average values of reimbursement or prices is a standard method in applied economics and litigation. Indeed, it can be demonstrated that my formulaic method, which is based upon average measures of price and market penetration, will lead to an **exact** aggregation of individual TPP damages without performing a calculation for and summation of each and every individual TPP.

## **VI. DR. WILLIG MAKES INCORRECT ASSERTIONS ABOUT THE RELEVANT MARKETS**

20. Dr. Willig's analysis incorrectly characterizes important aspects of reimbursement and competitive behavior in the markets in this matter. For example,

a) He makes contradictory statements about the determinants of reimbursement.

- In his ¶¶ 35-36, he asserts that the AWP is an "artificially constructed price measure" with little relevance to actual transaction prices.<sup>24</sup> He states that

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<sup>24</sup> Specifically he asserts, "[Dr. Hartman] assumes without any analysis, and contrary to logic, fact and economic methodology that actual prices follow an artificially constructed price measure (AWP)."

While this Court knows that the AWP is a list price and it "Ain't What's Paid," this Court has recognized the fundamental role of AWP in determining reimbursement rates for SADs and physician-administered drugs (PADs). In her Memorandum and Order re: Motion for Class Certification (hereafter *Memorandum and Order*), *In re: Pharmaceutical Industry Average Wholesale Price Litigation*, United States District Court District of Massachusetts, MDL No. 1456, Civil Action No. 01-12257, August 16, 2005, Judge Saris states (at p. 7), "Throughout the class period, from 1991 to the present, AWP has been the pricing benchmark for most pharmaceutical sales in the United States. (Hartman Decl. Attach. D ¶¶ 29-

“most analyses of actual pricing consider cost, demand, and the nature of competition to be the fundamental variables that determine prices. Artificially constructed price measures [i.e., list prices or AWP] do not enter these models, and thus actual prices are often taken to be independent of artificial prices.”

- However, in the remainder of his declaration, he analyzes how the elements of reimbursement that he hypothesizes may or could negate the 5% Scheme **have in fact been determined by changes over time in AWP.**
- If AWP is “artificial,” “independent of” actual prices and should “not enter these models,” Dr. Willig cannot appeal to increases in AWP over 1990-2005 as important determinants of the other factors affecting reimbursement.

b) He makes incorrect statements about the importance of U&C reimbursement.

- Dr. Willig suggests that the requirement in TPP reimbursement contracts that reimbursement be at the lesser of an AWP-based allowed amount or U&C (usual and customary charge) makes Class-wide analysis difficult. In support of this suggestion, Dr. Willig asserts in his footnote 37 “For a substantial portion of drugs the ‘usual and customary’ price was lower than AWP (DC3701067).”
- I have discussed reimbursement contracts at length in my testimony in the AWP-MDL matter and in the state AWP matters, and I have consistently recognized the fact that payors reimburse at the lesser of an AWP-based amount, other alternative reimbursement rates and the U&C.<sup>25</sup> I have incorporated that reality into my formulaic methodology here.
- In reality, U&C reimbursement is relevant almost only for cash payors. It has almost no relevance to TPP reimbursement. The U.S. General Accountability Office has documented this fact, stating “AWP is typically less than the U&C price. ... The difference between the levels of AWP and U&C prices for brand drugs narrowed slightly during the time period we analyzed. Whereas in the first quarter of 2000 AWP was on average about 91% of the U&C price for the same drug, by the fourth quarter of 2004 AWP was on average about 94% of the U&C price.”<sup>26,27</sup>

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30; Schondelmeyer ¶ 36.)” In forming her opinion, Judge Saris relied upon Professor Ernst Berndt, who noted in his February 9, 2005 Report: “AWP has served as a reference or focal point, an industry standard for baseline reimbursement, and as such a fictional benchmark price from which discounts are frequently specified, directly or indirectly” (¶ 16); and “Recall that pharmacies are typically reimbursed by health plans/insurers/PBMs for drugs they dispense on the basis of a relatively simple formula, such as AWP - X% plus dispensing fee plus (occasionally) administrative fees. ... [A]lmost all single source brand drugs are contractually reimbursed using AWP” (Berndt Report, ¶¶ 49 & 55).

<sup>25</sup> For my discussion of these contracts terms and the implications for reimbursement, see my declarations submitted in re the AWP litigation, both MDL and state specific.

<sup>26</sup> United States Government Accountability Office, Report to Congressional Requesters, *Prescription Drugs: Price Trends for Frequently Used Brand and Generic Drugs from 2000 through 2004*, GAO-05-779, August 2005, pp. 5, 12.

c) He makes incorrect assertions about economic theory.

- In his footnote 36, Dr. Willig asserts that it would make “no economic sense” for FDB to “use its monopoly position to raise the AWP/WAC spread,” because FDB would instead raise the price of its information services. Quite the contrary, it would make perfect economic sense for the FDB to use its monopoly position in whatever ways it felt strategically optimal. The evidence suggests FDB did raise the prices of its information services, post merger.<sup>28</sup> However, there are a multitude of other behaviors enabled by monopoly power, *holding prices constant*, including, but not limited to, reducing product quality (to lower cost); reducing service quality (to lower cost); and implementing other desirable strategies to the monopolist (such as promoting its product to economic entities of strategic value, e.g., retailers).<sup>29</sup> A monopolist can both exploit price and effectuate other strategies precisely because consumers cannot switch to alternative sources to defeat those monopoly behaviors.

21. See Attachment C for additional discussion of Dr. Willig’s analysis.

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<sup>27</sup> See Table 2 in Attachment C. Review of claims data for named Plaintiffs shows that the U&C prices reported in their claims data were greater than AWP 77% of the time (Philadelphia Federation of Teachers); 98% of the time (Teamsters); and 78% of the time (Pirelli Armstrong). For the remainder of the claims of all three named Plaintiffs, U&C was either equal to or greater than the contracted reimbursement rate (AWP-16% for Philadelphia Federation of Teachers, AWP-15.5% for Teamsters, and AWP-13% for Pirelli Armstrong), except for a *de minimis* number of claims for Pirelli and Teachers. Essentially no claims were paid at U&C by the Teamsters. See Teamsters Health and Welfare Fund claims data (THWF4808); the Pirelli Armstrong claims data (CMK-NECarp 000486); and the Philadelphia Federation of Teachers Health and Welfare claims data (PFTHW0156).

<sup>28</sup> See Complaint for Permanent Injunction and Other Equitable Relief Pursuant to Section 7A(g)(2) of the Clayton Act and Section 13(b) of the Federal Trade Commission Act, *Federal Trade Commission v. The Hearst Trust, The Hearst Corporation and First Databank, Inc.*, United States District Court for the District of Columbia, Civ. No. 1:01CV00734, ¶ 21.

<sup>29</sup> For example, the *Merger Guidelines* recognize such behavior as follows: “Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time. (Sellers with market power also may lessen competition on dimensions other than price, such as product quality, service, or innovation.)” Source: U. S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, 4 Trade Reg. Rep. (CCH) ¶ 13,104 (April 2, 1992), *as amended*, April 8, 1997, p. 2, as accessed at <http://www.usdoj.gov/atr/public/guidelines/hmg.pdf>.

Likewise, Dennis Carlton and Jeffrey Perloff in *Modern Industrial Organization* (p. 319) recognize: “...(W)hen consumers prefer different levels of quality, a monopoly manipulates the qualities of goods produced in the market to extract consumer surplus. The monopoly ... chooses the quality spectrum so as to charge a high price to those who value the good the most, and a low price to those who value it the least...”

## VII. SUMMARY AND CONCLUSIONS

22. Having reviewed Dr. Willig's declaration, I find that his analysis offers no factual evidence refuting the opinions set forth in my affirmative declaration concerning Class-wide impact, injury and the calculation of damages. His analysis looks at trends in drug reimbursement over 1995-2005 and either asserts or implies that the changes he observes are in direct response to the 5% Scheme, when under proper analysis it is clear that they are not. All of the variations he cites either **occurred prior to** implementation of the 5% Scheme or were induced by general market trends that **began prior to** the implementation of the 5% Scheme and **merely continued** during its implementation. Since they would have occurred absent the Scheme, proper analysis requires holding them constant for the purpose of analyzing the impact of the Scheme. In addition he makes a variety of analytic mistakes.

Given that his analysis offers no more than speculation and incorrect economic interpretations, I find his analysis does not alter my original opinions concerning impact, injury and the formulaic measurement of damages in this matter.

I declare that the foregoing is true under penalty of perjury.

**/s/ Raymond S. Hartman**

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March 18, 2007

# Exhibit 26

# United States Court of Appeals For the First Circuit

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No. 05-8008

IN RE: PHARMACEUTICAL INDUSTRY AVERAGE WHOLESALE  
PRICE LITIGATION,

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Before

Lipez, Circuit Judge,  
Laffitte, Senior District Judge,  
and Lisi, District Judge\*\*

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## JUDGMENT

Entered: November 25, 2005

This is a petition for leave to appeal from the district court's grant of class certification. We deny the petition because it is premature in that no class certification order has yet issued and, even if it had, this petition does not present an unsettled and important legal issue that is likely to escape effective review if an interlocutory appeal is not permitted.

## DISCUSSION

Rule 23(f) of the Federal Rules of Civil Procedure allows a party to apply for leave to file an interlocutory appeal from an order granting or denying class certification if application is made to the court of appeals "within ten days after entry of the order" (emphasis added). Here, although the district court expressed its intention to enter an order certifying a class, no such order has yet entered. Accordingly, this petition is premature and could be dismissed on that ground alone.

That is especially true of the district court's qualified

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\* Of the United States District Court for the District of Puerto Rico sitting by designation.

\*\* Of the United States District Court for the District of Rhode Island sitting by designation.

intention to certify a nationwide class of Medicare Part B beneficiaries. The district court expressly deferred ruling on plaintiffs' motion to certify such a class pending plaintiffs' motion to add individual class representatives. Even if plaintiffs amend their complaint to add such class representatives, the court indicated that such a class would be certified only if the purported class representatives are found to be "adequate" after an opportunity for further discovery and briefing by opposing parties. Nevertheless, to avoid another petition once the district court issues a certification order, we will consider the petition on its merits now.

Rule 23(f) gives this court "unfettered discretion" whether to permit an interlocutory appeal from the grant or denial of class certification. Fed. R. Civ. P. 23(f) advisory committee's note. That discretion is guided, however, by the dual purposes of the rule--to "provide a mechanism through which appellate courts, in the interests of fairness, can restore equilibrium when a doubtful class certification ruling would virtually compel a party to abandon a potentially meritorious defense," Waste Mgmt. Holdings, Inc. v. Mowbray, 208 F.3d 288, 293 (1st Cir. 2000), and to "furnish[] an avenue, if the need is sufficiently acute, whereby the court of appeals can take earlier-than-usual cognizance of important, unsettled legal questions, thus contributing to both the orderly progress of complex litigation and the orderly development of the law." Id. To avoid encouraging too many fruitless Rule 23(f) applications, however, we have restricted the second avenue for appeal to those instances in which an appeal will permit the resolution of an unsettled legal issue that is important to the particular litigation as well as important in itself and likely to escape effective review if left hanging until the end of the case." Id. We have further indicated that we would "exercise our discretion judiciously," id., and "err, if at all, on the side of allowing the district court an opportunity to fine-tune its class certification order, rather than opening the door too widely to interlocutory appellate review," id. (citation omitted). Under those standards, the present petition fails.

The only legal issue that defendants identify as important and unsettled is how rigorous a standard should be applied in reviewing expert methodology at the class certification stage.\*\*\* Even

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\*\*\*Defendants also seek to appeal the district court's decision to certify two statewide classes despite the absence of any class representatives who reside in the state and its stated intention to certify a nationwide class of Medicare Part B beneficiaries. Those aspects of the district court's decision raise no important and unsettled issues but, rather, involve the sort of "familiar and almost routine issues that are no more worthy of immediate appeal than many other interlocutory rulings." Fed. R. Civ. P. 23(f) advisory



assuming that this issue is sufficiently unsettled and important to warrant immediate appellate review, which we doubt, permitting an appeal under Rule 23(f) would still be inappropriate in the absence of a showing that the issue is "likely to escape effective review if left hanging until the end of the case." Id.

Here, defendants, large drug companies, do not claim that the intended certification order would force them to settle the case. Cf. id. at 294-95 (noting that "what might be 'ruinous' to a company of modest size might be merely unpleasant to a behemoth"). Rather, in an attempt to show that an immediate appeal is necessary, defendants state only that the issue may escape end-of-case review "because class actions often settle prior to final judgment." If that rationale--which applies to all class actions--were sufficient to satisfy the requirement that end-of-case review be shown insufficient, that requirement would be effectively nullified and our concern about "opening the door too widely to interlocutory appellate review," Mowbray, 208 F.3d at 294, would be realized.

In the absence of any showing that defendants here "will be forced to throw in the towel" absent an immediate appeal, id., we deny the petition and "allow[] the district court an opportunity to fine-tune its class certification order," id., if necessary, as the case progresses. That approach is particularly appropriate here, where the alleged weaknesses in plaintiffs' expert's methodology relate primarily to the individual damages phase of this case. The district court recognized that the methodology may not work for the individual damages phase but concluded that such an eventuality did not preclude class certification for purposes of determining liability and aggregate damages. Rather, as the district court recognized, if there is a need for individual proceedings on damages, the court could decertify the class at that time. See Fed. R. Civ. P. 23(c)(4)(A); see also Tardiff v. Knox County, 365 F.3d 1, 6-7 (1st Cir. 2004) (approving that approach); Smilow v. Southwestern Bell Mobile Sys., 323 F.3d 32, 39-41 (1st Cir. 2003) (same); Mowbray, 208 F.3d at 297 n.6 (same).

The petition for leave to appeal is denied.

By the Court:

Richard Cushing Donovan, Clerk.

**MARGARET CARTER**

By: \_\_\_\_\_  
Chief Deputy Clerk.

[cc: William F. Cavanaugh, Andrew D. Schau, Erik Haas, Henry H. Rossbacher, Jonathan W. Cuneo, Kevin P. Roddy, Steve W. Berman, Anthony Bolognese, Blake M. Harper, Kirk B. Hulett, Daniel E. Gustafson, Esq., Dianne M. Nast, Edward A. Wallace, Elizabeth Fegan Hartweg, Ian N. Richards, Jonathan D. Karmel, Jonathan Shub, Lee Squitieri, Esq., Marc H. Edelson, Esq., Kenneth A. Wexler, Esq., Jennifer F. Connolly, Brian L. Williams, Susan E. MacMenamin, David Woodward, Esq., Samuel D. Heins, Esq., Damon M. Young, Jeffrey S. Friedman, Derek G. Howard, Gilmur R. Murray, Daniel Hume, Daniel Kovel, Joanne M. Cicala, Lloyd Donders, Aaron D. Hovan, Roger W. Kirby, Esq., David E. Haviland, Esq., TerriAnne Benedetto, Esq., Donald E. Haviland, Esq., Melvyn I. Weiss, Esq., Michael M. Buchman, Esq., J. Douglas Richards, Esq., Nancy Freeman Gans, Esq., John R. Low-Beer, Richard J. Costa, B. J. Wade, William F. Burns, C. V. Gibson, W. Daniel Miles, David H. Bershad, Michael J. Flannery, Esq., Nicole Y. Brumsted, Robert G. Eisler, Thomas M. Sobol, Esq., Hugh E. McNeely, Edward Notargiacomo, Esq., Eric B. Fastiff, Joseph Danis, Joseph R. Saveri, Esq., Evan D. Buxner, James A. Quadra, Rebecca Bedwell-Coll, Robert D. Sanford, Christopher Moscone, Adelina O. Berumen, Elisel Z. Sisneros, John P. Fisher, Nicholas N. Paul, Siobhan A. Franklin, Thomas A. Temmerman, Timothy C. Foote, William S. Schneider, Atlee W. Wampler, Brian V. Frankel, Dennis T. Fenwick, James J. Breen, M. James Lorenza, Jonathan Shapiro, Esq., James P. Carroll, Michael Coons, Thomas W. Coons, Esq., Kelly J. Davidson, Adam D. Miller, Walter J. Lack, Gary L. Azörsky, Sherrie R. Savetty, Esq., Susan Schneider, Thomas J. Andrew Jackson, Jason D. Wallach, Lisa Colcock, Phelan Mark J. MacDougall, Matthew A. Rossi, Merle M. Delancey, Tina D. Reynolds, Andrew J. Jackson, Peter E. Gelhaar, Esq., Will Brenner Meixel, Esq., Kimberly A. Dunne, Richard D. Raskin, Bruce M. Zessar, David C. Giardina, David F. Graham, Daniel J. Cloherty, Esq., Joseph E. Haviland, Esq., Thomas E. Dwyer, Lyndon M. Tretter, Kenneth D. Klien, Thomas J. Sweeney, Steven M. Edwards, Alison C. Gilbert, D. Jacques Smith, Lisa A. Estrada, Robert Wolkon, Esq., Ronald L. Castel, Matthew L. Larrabee, Robert B. Hubbell, Stephen A. Tuggy, Mona M. Patel, Esq., Mary Ellen Hennessy, Stephen D. Libowsky, S. Elaine McChesney, Esq., Thomas J. Hennessey, Esq., Robert A. White, Paul S. Schleifman, Jonathan R. Rees, Esq., Todd S. Cashin, David M. Glynn, Esq., Aimee E. Bierman, Esq., Cara E. Corbett, Esq., Jeanne Elizabeth Demers, Esq., Jeffrey S. King, Esq., Michael DeMarco, Esq., James P. Muehlberger, Michael L. Koon, Nicola R. Heskett, Robert J. McCully, Jennifer H. McGee, Liza M. Walsh, Daniel E. Rosenfeld, Esq., Jeffrey L. Kodroff, Esq., Frederick G. Herold, Brennan J. Torregrossa, Florence A. Crisp, James J. Duffy, Kristi T. Prinzo, Arthur F. Golden, Kimberly D. Harris, Jared R. Winnick, Monica Lamb, Jack B. Blumenfeld, Lucy Fowler, Esq., Nicholas C. Theodorou, Esq., Darrell A.H. Miller, Douglas L. Rogers, Paul J. Coval, Nina I Webb-Lawton, Randal C. Teague, John C. Dodds, Mark D. Smith, Esq., Scott A. Stempel, Brian T. O'Connor, Crystal D. Talley, Esq., David C. Potter, Esq., John T. Montgomery, Esq., John R. Therien, Eric P. Christofferson, Esq., Darcy W. Shearer, Esq., Kirsten V. Mayer,

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# Exhibit 2

**Table 1**  
**Summary of the Scheme Impact for Selected Drugs and Strengths Identified by Dr. Willig (%)**

	<b>Lipitor 10MG</b>	<b>Lipitor 20MG</b>	<b>Plavix 75MG</b>	<b>Prevacid 30MG</b>	<b>Wellbutrin SR 150MG</b>	<b>All 4 Drugs</b>
Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 6 Months After the Date of Markup						
Change in AA/WAC	3.94	4.22	4.38	4.75	3.92	4.24
Percent Increase in AA/WAC	3.43	3.74	3.83	4.20	3.40	3.72
Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 2-7 Months After the Date of Markup						
Change in AA/WAC	4.04	4.31	4.52	4.86	3.94	4.34
Percent Increase in AA/WAC	3.52	3.82	3.95	4.30	3.42	3.80
Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 7-12 Months After the Date of Markup						
Change in AA/WAC	4.19	4.44	4.55	4.85	3.60	4.33
Percent Increase in AA/WAC	3.65	3.93	3.97	4.29	3.12	3.79
Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 13-18 Months After the Date of Markup						
Change in AA/WAC	3.77	4.49	4.40	4.62	4.03	4.26
Percent Increase in AA/WAC	3.29	3.98	3.85	4.08	3.50	3.74
Comparing the Average of the 6 Months Prior to Date of Markup to the Average of the 19-24 Months After the Date of Markup						
Change in AA/WAC	4.08	4.70	4.22	4.97	3.46	4.29
Percent Increase in AA/WAC	3.56	4.17	3.69	4.39	3.00	3.76

35. Finally, I pool monthly time series for all Appendix-A drugs to test the hypothesis of a systematic push-back or recoupment across these drugs. I do the same for my sample of non-Appendix-A drugs.<sup>29</sup> I find that if I assume that push-back is common across all drugs in each sample, there is a very small and at times statistically significant negative time trend, as I discuss in Attachment F. However, standard statistical tests demonstrate that a common explanation of changes in d and df is rejected by the data.

<sup>29</sup> The samples I have been able to use are discussed in detail in Attachment F.

# Exhibit 3

**ATTACHMENT E**  
**COMPETITION**

**I. MCKESSON'S PARADIGM OF COMPETITION IGNORES MARKET REALITIES**

1. McKesson would like the Court to believe that the alleged fraud had no impact on the Class because competitive forces quickly eliminated any windfall conferred by the inflation of published AWP's. In particular, McKesson's counsel argued as follows:

"I want to rest on this proposition: When you get to the issue of impact, the question is, and you know this about the PBMs, the 800-pound gorillas: There is vigorous competition among them. Dr. Hartman, he may be smart, but he's wrong about the absence of vigorous competition. Dr. Berndt is correct. They are going to pass that money back to the TPPs, sure as shooting, just as Dr. Berndt said they would, and that's the final point."<sup>1</sup>

2. In essence, McKesson asserts that PBMs compete so aggressively, or so "fiercely,"<sup>2</sup> for TPP business that they could not afford to retain, or to allow the retailers in their networks to retain, the windfall profits that resulted from the alleged fraud by FDB and McKesson.

3. The notion that competition will chase out all excess profits may be appropriate for a commodity market, such as steel or agricultural products, but is wholly inappropriate to the markets at hand. To explain why PBM competition does not dissipate the profits that PBMs and retailers earn as a result of inflated AWP's I appeal both to economic theory and empirical evidence.

4. From a theoretical perspective, there are several key aspects of PBM competition that together constrain the competitive performance of the market. First, the PBMs and their client TPPs that are most informed and capable of competing are typically large buyers; each set has some market power. This implies that the relationship between the TPPs and the PBMs is one of bargaining rather than a competitive market solution where the PBMs are "price takers". Moreover, this bargaining is undertaken in an environment of asymmetric information that favors the PBMs. Any analysis and conclusion about the impact of the fraud based on competitive market reasoning is therefore at odds with standard economic theory.

**II. BARGAINING MODEL UNDER ASYMMETRIC INFORMATION**

5. The competitive market logic that McKesson would like the Court to accept is as follows: buyers (here TPPs) shop on the basis of price and only need to know the price at which the seller offers the product (or service) and competition among sellers should drive prices down to long-run average costs. *This reasoning is not correct in*

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<sup>1</sup> Motion/Status Hearing, p. 48.

<sup>2</sup> Memorandum and Order, p. 4.



*bargaining models that better describe the relationship between TPPs and PBMs.* In a Nash or Roth-Nash model of bargaining, for example, the “reservation” position (the market position a party could achieve if no agreement were reached) is relevant to determining the outcome of a bargain. Here, if a TPP bargaining with a PBM believed the PBM were forgoing profits of X by not striking a deal, the outcome would be different than if the TPP thought the PBM were forgoing profits of 10X. In particular, the TPP would bargain more aggressively if it thought the PBM had more to lose. Thus, to the extent that the level of overall profits that a PBM will earn on a contract is unobservable, the PBM can negotiate a more favorable contract, and even in the presence of competition, can earn substantial margins. *Thus, it is in the PBMs self-interest to keep unobservable, or to hide, an increase in profits due to a particular event or set of events, when those profits are being earned at the expense of TPPs, which is the case here.*<sup>3</sup>

6. McKesson’s counsel further claim that the TPPs would have offset the sudden increase in AWP through other features of the contract (in particular, increased discounts); this assertion is also flawed. If PBMs operated in a “fiercely” competitive market, a “participation constraint” (e.g., a zero, or fixed profit constraint that would be necessary to induce the PBM to sign the contract) would indeed imply that higher net payments in one part of a contract would be compensated for by lower payments in another.

7. In a bargaining situation, this is not true. A new source of hidden profits, as alleged in this matter, would effectively change the bargaining results of the two parties; it would alter the division of the surplus between the two parties in bargaining (using the Roth-Nash model described above). Therefore, McKesson’s actions to increase the spread to retailers would not be compensated for by discounts elsewhere but instead will result in higher net payments by TPPs (and harm to Class members).

8. The foregoing theoretical discussion of bargaining matches closely the institutional realities of the PBM market. Generally, TPPs hire PBMs through a request for proposal (RFP) process to undertake a task on their behalf – to manage their pharmacy benefit. While the TPPs can observe what their contracted rates are as a function of AWP as well as the total amount they are spending once the contract is in place, they cannot observe numerous dimensions of the tasks undertaken by the PBMs. For example, TPPs cannot observe the magnitude of rebates (or other payments) that the PBM earns from pharmaceutical manufacturers related to formulary status and market share of various brand name drugs, nor can they observe how aggressively the PBM promotes generic substitution. Likewise, unless the TPPs somehow knew how to track AWP and WAC prices over time for the drugs at issue, they could not observe the alleged AWP inflation resulting from the Scheme. *Discovery materials in this matter demonstrate that very few TPPs track AWP and WACs in this fashion.*<sup>4</sup> In light of

<sup>3</sup> This fact is admitted by ESI internal strategic documents, presented at length in Attachment D, ¶¶ 12-14: “The client [TPPs] will see an increased trend [cost] in direct relation to the increase in AWP. ... The client [TPPs] will see an increase in drug costs. Members will pay more for % copay plans, they will meet their deductibles and caps sooner.”

<sup>4</sup> See Attachment D, ¶ 39.



the small percentage of total health care spending at issue and the numerous other factors that might push monthly drug spending up or down, even a sophisticated TPP would have had a difficult time determining whether such an observed increase was part of general health care spending growth, the reflection of new drug launches or seasonal increases in utilization. With thousands of drugs and millions of claims, TPPs faced an enormous monitoring problem concerning PBM and retailer behavior.

9. Another institutional feature of the PBM service market that causes a departure from the frictionless competitive ideal held out by McKesson is the fact of switching costs. There are fixed costs associated with putting out an RFP, evaluating bids, and in the event of a switch, disseminating new information to members and establishing protocols for electronic data interchange. PBM contracts are therefore typically long term, which softens any price competition that might arise between PBMs. This notion of competition is analogous to that observed in physician markets, where doctor-patient relationships inhibit patient willingness to shop around for better prices or quality. Such "monopolistic" competition, as it is referred to in the economics literature, permits PBMs (like physicians) to maintain high profit margins even where there is a low level of market concentration.

### III. PBM PAYMENTS, HENCE INCENTIVES, ARE DIRECTLY LINKED TO AWP

10. The second theoretical reason to doubt that PBM competition could defeat the alleged fraud is the manner in which PBMs are paid. As understood by this Court, the allowable amounts public and private insurers reimburse PBMs for branded pharmaceuticals are related formulaically to AWP. As a result, PBMs can profit *in their pharmacy benefit management line of business* from increased AWP as follows.

- a) PBMs negotiate contracts with third-party payers (TPPs) and with retailers regarding reimbursement rates paid by TPPs and paid to retailers. The PBMs are the middlemen and benefit from that position. These negotiated reimbursement rates are tied to the AWP (or another list price formulaically related to AWP).
- b) The difference between what PBMs pay retailers and what they are paid by TPPs is the "retail spread," which is a function of AWP. Suppose, for example, that a PBM reimburses its retailers AWP-15% and is reimbursed by a TPP at AWP-13%. In this hypothetical case, the retail spread is 2% of AWP.
- c) As a result, PBMs benefit from any increase in AWP – the higher the AWP of a drug, the larger the absolute dollar spread. Therefore, all things equal, PBMs will have an incentive to allow AWP inflation to go unnoticed by the TPPs.

11. More importantly, the calculations above reflect payments to an independent PBM for drugs dispensed through their retail network pharmacies. However, many PBMs, particularly the largest PBMs that were the most likely to know of the impacts of the Scheme, are often divisions of health care industry conglomerates, which own PBMs, mail order and retail pharmacies. *When a PBM is affiliated with a mail-order pharmacy and/or a retail pharmacy (e.g., ESI, Caremark and Medco Health; see Table E-1), the PBM affiliate earns the entire retail margin increased by the Scheme*

*and faces the same incentives as the retailers who conspired to induce and perpetuate the alleged fraud.*

#### IV. EMPIRICAL EVIDENCE ON PBM COMPETITION AND COMPETITIVE OUTCOMES

12. The theory described above and framed in the context of key institutional features of the PBM market is supported by the empirical evidence. I describe four major categories of evidence that definitively controvert the assertion that PBMs compete to reduce TPP spending on prescription drug spending.

##### A. The Changing Composition and Nature of Services Offered by PBMs

13. In a recent report in *Managed Care Magazine*, one observer described the evolution of PBM services and competition as follows:

“Initially, the goal of the PBM was to simplify the administration of benefits for health plan members and to provide some cost-management services. ... In the early 1990s, as electronic point-of-sale (POS) claims processing became prevalent, PBMs began to shift their dependence on revenue from claim processing to other sources, including manufacturer rebates, selling data to manufacturers, and selling mail order and retail drugs. PBMs found that health plans and employers were more interested in lower administrative fees, because the result of pharmacy-cost reduction appeared to be too difficult to measure. This practice created a price war among PBMs for business from large health plans and resulted in a perception of POS pharmacy claims as a commodity.... Gradually, the PBM industry shifted to aggressive strategies of seeking revenues from alternative sources to compensate for selling benefit administration services at lower costs. PBMs that could not buy or build mail order capabilities quickly turned to other revenue sources. These included the sale of claims data to drug manufacturers and repricing of the retail network, known as spread pricing (fees gained through continual negotiation of lower rates with the pharmacy network that are not passed on to the health plan or employer). Today, revenue from POS claims processing provides little to no margin for PBMs.”<sup>5</sup>

14. The quotation clearly identifies those PBM functions subject to competition, perhaps even “fierce” price competition – the vigorous competition for claims processing and other administrative services. However, the “price war among PBMs for business” is not a competition on the margin of total pharmacy benefit costs as McKesson would suggest, but only on the narrow margin of administrative fees “because the result of pharmacy-cost reduction was too difficult to measure.” The inability of health plans to

<sup>5</sup> See: Steve Martin, “PBM Industry Today: Who's Managing Drug Costs?”, *Managed Care Magazine*, Dec. 2001, <http://www.managedcaremag.com/archives/0112/0112.pbmfuture.html>, accessed August 29, 2007.

accurately measure a PBM's reduction in pharmacy cost makes it impossible for this to be the basis for the same degree or type of competition.

## B. Changing Market Structure and Conduct

15. In spite of this business evidence, McKesson still argues that PBM conduct is *competitively "sufficient,"* based in part upon the analysis of Dr. Berndt and indirectly the FTC.<sup>6</sup> However, *reliance upon a single FTC report is risky,* since other FTC studies have come to the opposite conclusion. For example, the FTC has opined elsewhere that PBMs are characterized by a lack of sufficient competition and a lack of transparent information.<sup>7</sup> This latter FTC opinion is certainly more in tune with the business realities identified above (§§ 13-14) than is the FTC study cited by Dr. Berndt.

"Competitive concerns have arisen in the PBM market – a highly concentrated industry in which the four largest firms hold about a combined 80% market share. The market for full-service PBM providers capable of bidding on Medicare contracts is even more concentrated. Moreover, concentration in the market has increased substantially over the past decade. Substantial costs have prevented any successful entry into the PBM market for quite some time, and substantial switching costs create obstacles for plan sponsors to change PBMs.

The situation is one in which PBMs can act opportunistically – easily increasing prices or decreasing service. Indeed, the Federal Trade Commission (FTC) placed the two largest PBMs – Merck and PCS – under regulatory consent orders to prevent opportunistic conduct that would harm consumers.<sup>8</sup> The FTC found [among other things] that 1) there was a national market of PBMs with very few competitors; 2) PBMs had the ability and incentive to engage in exclusionary conduct; [and] 3) there was the potential for collusion among PBMs....

PBMs consistently decline to provide systematic and complete payment information to their plan sponsors."

If the FTC is a reliable authority on PBM market structure, conduct and workable competition, earlier opinions by the FTC stating that PBMs are not competitive should be given weight equal to those FTC opinions suggesting that competition is sufficient.

16. While I have noted above that lack of concentration does not, in the presence of switching costs, necessarily yield competitive behavior, it is nonetheless of interest to examine this dimension of PBM market structure. Table E.1 presents information for the top 10 PBMs, their corporate identities and their market shares over 2002 to 2005. Table

<sup>6</sup> At ¶ 162 and footnote 213, Dr. Berndt in his February 2005 Report to this Court claims that "the FTC has taken a strong position believing that competition among PBMs is sufficient."

<sup>7</sup> David A. Balto, "Competitive Concerns and Price Transparency in the PBM Market," *Update Journal of the Food and Drug Law Institute*, September/October 2003, p.35-36.

<sup>8</sup> Eli Lilly, 61 Fed. Reg. 31, 117 (FTC July 31, 1996); Merck & Co., 63 Fed. Reg. 46,451 (FTC Sept. 1, 1998).

E.1 also identifies the top 50 PBMs in 2002. Table E.1 demonstrates that the concentration of the top 10 increases somewhat with mergers and acquisitions. The sum of the market shares of the top 10 increases from 72.6% in 2002 to 76.1% in 2005.

17. More importantly, the horizontal mergers, which have increased the market concentration of the top 10 modestly, have been accompanied by considerable vertical integration over the past decade. Particular concern has been expressed over PBMs becoming vertically integrated with mail order or retail pharmacies.<sup>9</sup> Table E.1 identifies where possible all horizontal and vertical mergers and acquisitions of relevance.

### C. Sources of PBM Revenues and the Nature of Competition

18. The vertical consolidation reflected in Table E.1 is corroborated by data on sources of revenue that PBMs report publicly. Figures E.1 and E.2 display the sources of revenue for Medco Health Solutions (Medco) and Express Scripts, Inc. (ESI). For Medco, net revenues associated with retail sales is the largest source of revenue, followed by mail order. Combined, net revenues associated with product sales are approximately 100 times larger than revenues obtained through service fees (e.g., to client TPPs). Moreover, client (TPP) service fees are only about half of all service fees, with the remainder derived from pharmaceutical manufacturers. Similar patterns are apparent in the ESI data, where service fees represent less than 1% of net revenues. *Given the enormous base of product-related revenues relative to other sources of revenues, it is simply not credible to suggest that PBMs would be moved to dissipate the alleged markup (of approximately 4%) on drug reimbursement and the resulting increase in profit of "more than 3 times the profit as before."*<sup>10</sup>

<sup>9</sup> For one recent and telling example, in "CVS, Caremark to Merge, Create Drug Giant -- Analysts question whether \$21b deal will aid consumers," *Boston Globe*, November 2, 2006, Jeffrey Krasner states the following:

"CVS Corp. of Woonsocket, R.I., the nation's largest drugstore chain, said it plans to buy pharmacy-benefit manager Caremark Rx. Inc. of Nashville in a \$21 billion all-stock deal, creating a drug distribution powerhouse. But analysts wonder whether the merged entity will use its purchasing clout to benefit consumers. 'Caremark and CVS combined have the power to negotiate better prices from the drug manufacturers. The question is: Will they pass those savings on to consumers?' said Hussain Mooraj, life sciences research director at AMR Research in Boston. 'If you're a payer for healthcare, you've got to wonder if you're going to be getting as good a deal with CVS' as with other stores, said Richard Frank, Professor of Healthcare Policy at Harvard Medical School. 'I'd think twice about doing business with them.' .... Pharmacy-benefit managers are drug industry middlemen who negotiate prices and supply drugs to large group of beneficiaries such as health plans, employers, and unions. Traditionally, [when they were independent of mail order and retail pharmacies] they have worked to cut the cost of drugs supplied by chains like CVS. ... [With the merger], Caremark gives CVS a large mail-order pharmacy business. ... CVS has grown rapidly through acquisitions. In 2004, it acquired about 1,200 Eckerd drugstores from that chain's parent, JC Penney Co. This year, it bought more than 700 stores from the Albertson's grocery chain. It has 6,200 stores in 43 states."

Going forward, the profits earned by these substantial mail order and retail pharmacy organizations from TPP payments certainly will be balanced against the amounts that the PBM can earn from these same TPPs. *Returns to pharmacy will certainly blunt competitive behavior of the PBM (Caremark) on behalf of its client TPPs.*

<sup>10</sup> *Memorandum and Order*, p. 8 (emphasis added).

19. The lack of transparency that has characterized PBM financials and payer concerns about conflicts of interests inherent in the PBM business model precipitated Federal and State lawsuits directed at major PBMs including Medco and ESI.<sup>11</sup> Following a settlement of these matters, Medco released some additional information regarding sources of revenue and profits. Medco's data show that even after the litigation (2004) it retained 40.5% of rebates.<sup>12</sup> A recent FTC analysis using confidential data on a sample of PBMs found similarly high average rebate retention rates with several companies retaining significantly more than half of rebates. PBMs ability to retain such a large share of rebates suggests that PBMs do not in fact compete away excess profits from obscured revenue streams.

#### D. Measures of PBM Profits

20. A final source of confirmation that PBMs did not eliminate the harm to TPPs from the AWP inflation comes from the PBMs' own reckoning of the impact the outcome of this litigation might have on profitability. In its 2006 Annual Report, ESI noted the likely negative impact on profit margins that would come from FDB's possible reduction of AWP's – both in its mail order business and on the retail pharmacy side. ***If reversing the fraud would reduce retail and mail-order profits, then by simple logic it must be true that the Class was harmed when the AWP's were inflated – and continued to be harmed until the point in time at which the inflation was removed.***

*“Changes in industry pricing benchmarks could materially impact our financial performance.*

Contracts in the prescription drug industry, including our contracts with retail pharmacy networks and with PBM and specialty pharmacy clients, generally use certain published benchmarks to establish pricing for prescription drugs. These benchmarks include AWP, average manufacturer price and wholesale acquisition cost. Most of our client contracts utilize the AWP standard.

Recent events have raised uncertainties as to whether payors, pharmacy providers, PBMs and others in the prescription drug industry will continue to utilize AWP as it has previously been calculated or whether other pricing benchmarks will be adopted for establishing prices within the industry.

Specifically, in the recently announced proposed settlement in the case of *New England Carpenters Health Benefits Fund, et al. v. First DataBank, et al.*, Civil Action No. 1:05-CV-11148-PBS (D. Mass.), a civil class action case brought against First DataBank (“FDB”), one of several companies that report data on prescription drug prices, FDB has agreed to reduce the reported AWP of certain drugs by four percent. At this time the proposed

<sup>11</sup> See p. xvii and footnotes 10 & 11 to that page in Federal Trade Commission, “*Pharmacy Benefit Managers: Ownership of Mail-Order Pharmacies*,” August 2005. As with many FTC reports, I note that conflicting interpretations of the results of this report remain to be settled.

<sup>12</sup> Lawrence W. Abrams, “Quantifying Medco's Business Model”, 4/5/2005. [http://www.mu-retail.com/quantifying\\_Medco\\_business\\_model.pdf](http://www.mu-retail.com/quantifying_Medco_business_model.pdf), accessed September 3, 2007.



settlement has received preliminary but not final court approval. We cannot predict the outcome of the case or, if the settlement is approved, the precise timing of any of the proposed AWP changes.

In the absence of any mitigating action on our part, the proposed reduction in FDB's AWP would have a material adverse effect on the margin we earn on home delivery transactions. It may also create disruption in our retail networks due to the adverse impact on AWP-based retail pharmacy pricing. However, most of our contracts with clients and retail pharmacies contain terms we believe will enable us to mitigate the adverse effect of this proposed reduction in FDB's reported AWP."<sup>13</sup>

21. The last paragraph of this notification bears particular scrutiny. It essentially states that ESI, which had clearly profited from the increases in Spread resulting from the Scheme simply would not allow those profits to be taken away: ***"Most of our contracts with clients and retail pharmacies contain terms we believe will enable us to mitigate the adverse effect of this proposed reduction in FDB's reported AWP."*** This certainly makes perfectly clear which entity has the bargaining strength in the relationship between PBMs (here ESI) and their TPPs. In light of this confident assertion, McKesson's and Dr. Willig's assertion that TPPs had the competitive power to push-back the impacts of the Scheme is simply not credible.

## V. CONCLUSIONS

22. McKesson's expert and counsel suggest that the "invisible hand" of competition would wipe away any trace of impact left by the alleged fraud. These claims do not withstand scrutiny. They are supported neither by economic theory nor empirical evidence. Specifically,

- a) The evidence put forward to date demonstrate that only two of all PBMs in the country knew of the increased Spreads induced by the Scheme; see ¶ 22 of Attachment D. These two PBMs are among the three largest and most sophisticated in the country.
- b) Only one, ESI, of these two PBMs exhibited a response directed at its TPP clients. ***No other PBMs exhibited any response directed toward its client TPPs.*** Furthermore, ESI did not demonstrate a willingness or an effort to renegotiate the terms of its contracts with its client TPPs. Instead, it sent out a vanilla letter saying that the Spread had increased for "certain drugs." ESI did not say how many drugs constituted "certain drugs;" ESI directed its staff not to proactively offer any relevant information unless asked by TPP clients; ESI did not propose specific methods by which the TPPs could mitigate the impacts of the Spread.
- c) This lack of any revealed response by PBMs should not be surprising. First, most PBMs did not know of the impacts of the Scheme. Second, those that did know

<sup>13</sup> See Express Scripts, Inc., Annual Report 2006, p. 21.

of the impacts of the Scheme and/or were most likely to know were the largest PBMs. The three cited by McKesson were the three largest in the country in 2005; see Table E.1. These large PBMs are precisely those most likely to be part of large health care conglomerates, which offer PBM services, mail-order pharmacy and at times retail pharmacy, among other services.

- d) *The corporate entities owning these PBMs benefited from the Scheme*, as the internal strategic documents of ESI demonstrate; see ¶¶ 12-14 of Attachment D. As Figures E.1 and E.2 demonstrate, Medco Health and ESI earn the majority of the revenue (hence profit) from mail order and network pharmacy lines of business.<sup>14</sup> Since the Scheme was estimated by McKesson to increase profit on retail pharmacy sales (and by inference profits on mail-order pharmacy sales) by “3 times”, it is not credible to argue that PBMs (and their corporate owners) would compete away those profits in an attempt to add, on the margin, to their already substantial number of client TPPs and number of insured lives. If they did behave in this fashion, there would certainly arise the possibility of shareholder litigation for mismanagement. But the shareholders need not worry; as made clear by PBM statements to their shareholders (e.g., ESI’s Annual Report, footnote 13 above) the corporate entities that benefited from the Scheme did not intend to let those benefits be taken away, either through competition or legal settlement.
- e) Put simply, the Court must carefully reflect upon what it believes to be the notion of “fierce competition.” In undergraduate textbooks on microeconomics, “fierce competition” means that many competitors in a horizontal market for a single simple product compete until they just cover costs; that is, until they compete away “excess profits.”
- f) That notion of “fierce competition” is simply not appropriate here. Competition is much more nuanced. It involves balancing profits earned by health care conglomerates across a variety of related lines of business in a variety of markets. The competition in each of these markets is constrained by institutional realities, bargaining and Roth-Nash equilibria. A PBM, and its corporate ownership, will “compete fiercely” to maximize profits across all lines of business. In the case of those large vertically-integrated PBMs that knew of the impacts of the Scheme, profit maximization resulted from taking the profits induced by the Scheme at the pharmacy rather than giving them up in an effort to gain (or retain) a few TPPs.

<sup>14</sup> This has been noted more broadly. As I have cited elsewhere, “Examination of the sources of revenue for PBMs reveals that PBMs make more money from manufacturer revenue than they make from employer/client fees. Other major sources of revenue include revenue from pharmacy discounts not passed on to the end payer. Some analysts have raised concerns about the potential conflict of interest faced by PBMs with more revenue from drug manufacturers [and pharmacies] than from the employer or client. Another potential conflict of interest results from a PBM promoting their own pharmacy (a mail order pharmacy) while at the same time reviewing prices and processing prescription claims of community pharmacies.” See Stephen W. Schondelmeyer and Marion V. Wrobel, “Medicaid and Medicare Drug Pricing: Strategy to Determine Market Prices,” Final Report, Abt Associates Inc., Prepared for Centers for Medicare and Medicaid Services, August 30, 2004, p. 13.

- g) These theoretical and empirical analyses are buttressed by the econometric analysis of reimbursement data that I have put forward in Attachment F. If the competition were as fierce as McKesson is trying to convince the Court, we should see push-back, either quickly or within a year or two of the implementation of the Scheme. *We do not see push-back through the end of my data, November 2004.*



**TABLE E.1**  
**LIST OF PBMs, 2002 AND 2005**

	2005*		2002**				
<i>Name</i>	<i>Rank</i>	<i>Market Share</i>	<i>Rank</i>	<i>Market Share</i>	<i>Owns Mail Order</i>	<i>Owns Retail Pharm</i>	<i>Notes on Mergers &amp; Acquisitions</i>
Caremark Rx, Inc.	1	10%	6	5.2%	Y	Y	Reacquired through CVS merger 2006 [11]
Medco Managed Care	2	13%	2	14.1%	Y	Y	Merck spin-off 2003 [2]; Owns specialty pharmacy [3]
Express Scripts, Inc.	3	11%	3	10.2%	Y	Y	Owns specialty pharmacies [4]
WellPoint Pharmacy Management	4	7%	4	7.0%	Y		Bought PrecisionRx in 2000, and was purchased by Anthem in 2004 [5]
Pharmacia Management Services, Inc.	5	6%	10	2.6%	Y	Y	Wholly owned subsidiary of CVS [6]
MedImpact Healthcare Systems, Inc.	6	6%	6	5.2%			
Apria Health Systems, Inc.	7	3%	7	3.2%			
RxStrategies, Inc.	8	3%	N/A	N/A			
ACS State Healthcare	9	3%	16	1.4%			
Health Trans	10	3%	N/A	N/A			
AdvancedPCS			1	16.3%	Y	Y	Purchased by Caremark in 2003 [7]
Eckerd Health Services			8	3.5%	Y	Y	Purchased in a two-way deal by Caremark and Canadian Jean Coutu Group (owners of Brooks) in 2003 [8]
Field Health Services Corporation			9	2.7%			
WebMD Corporation			11	2.6%			
Actua US Healthcare Pharmacy Management			12	2.4%			
Pharmacy Services Group			13	2.4%	Y		Owns mail order service called RxUniverse [9]
Script Solutions			14	2.0%	Y	Y	Owns specialty pharmacy [10]
National Prescription Administrators, Inc. (NPA)			15	1.6%	Y		Bought by Express Scripts (ESI) in 2002 [11]
Prescription Solutions			17	1.2%	Y		Owned by United Health Group [12]
Health Information Designs, Inc.			18	1.1%			
Rx Alliance			19	1.0%	Y	Y	Owned by Longsight Stores Corporation [13]
Anthem Prescription Management, L.L.C.			20	1.0%	Y		Changed name to WellPoint after acquiring WellPoint in 2004 [14]
Prime Therapeutics, Inc.			21	0.9%	Y		Own mail order service called PrimeMail [15]
Managed Pharmacy Benefits Inc. (MPB)			22	0.8%		Y	Owned by Medicine Shoppe International, Inc [16]
Rodanville			23	0.7%	Y		Owned by CIGNA [17]
US Script			24	0.7%	Y		In January 2006 Centene Corp., a managed care provider, purchased US Script [18]

	2005*		2002**			
Name	Rank	Market Share	Rank	Market Share	Owns Mail Order	Owns Retail Pharm
Adventist Inc.			25	0.4%		
National Medical Health Card Systems			26	0.5%	Y	Y
Health Resources, Inc.			27	0.5%		
Walgreens Health Initiatives			28	0.5%	Y	Y
Safeway, I.L.C.			29	0.4%	Y	Y
RESTAT			30	0.4%		
Pharmacia Health Care Network (PHCN)			31	0.4%		
WMS Prescription Drug Plans			32	0.3%	Y	Y
Centex Pharmacy Services			33	0.3%		
Pequot Pharmaceutical Network[R] (PRxN[R])			34	0.3%	Y	
IPS (Immediate Pharmaceutical Services)			35	0.3%	Y	
SMCRx			36	0.3%	Y	Y
Inco Group Inc. (IHS)			37	0.3%	Y	
Northwest Pharmacy Services (NWPS)			38	0.3%		
Chicago Management Services, Inc.			39	0.3%	Y	
National Pharmaceutical Services			40	0.3%	Y	
PrimeMed Pharmacy Services, Inc.			41	0.2%		
Centrus-Pharmacy Benefits Management			42	0.2%		
United Provider Services			43	0.1%		
FFI Health Services			44	0.1%		
Pharmacy ADVANTAGE System			45	0.1%		
Universal Rx			46	0.1%		
Medical Matrix, Inc.			47	0.1%		
Pharmacy Provider Services Corporation			48	0.1%		
Pharmacia			49	0.1%		
Maxor National Pharmacy Services Corporation			50	0.1%	Y	Y

Notes on Mergers & Acquisitions

Owns specialty pharmacy [19]

[20]

Subsidiary of Medco Health [21]

Owned by the F. Doherty Company [22]

Bought by National Medical Health Card Systems, Inc. in March 2005 [23]

Wal-Mart mail-order pharmacy services are owned and operated by Walmart [24]

Mail order service bought by Walgreens in 1999 [25]

Wholly owned by Mashantucket Pequot Tribal Nation [26]

[27]

Subsidiary of Safeway [28]

[29]

Purchased by Pharmacia (CVS) in 2007 [30]

Owned by Pharmaceutical Technologies [31]

Subsidiary of Med Diversified Inc. [32]

Bought by National Medical Health Card in 2003 [33]

Subsidiary of Pharmacia (CVS) [34]

Acquired by Advance Paradigm, Inc. in 2000 [35]

Changed name to Cardinal Rx [36]

[37]

Kindred Healthcare Inc. and AmerisourceBergen merged to create Pharmacia in July 2007 [38]

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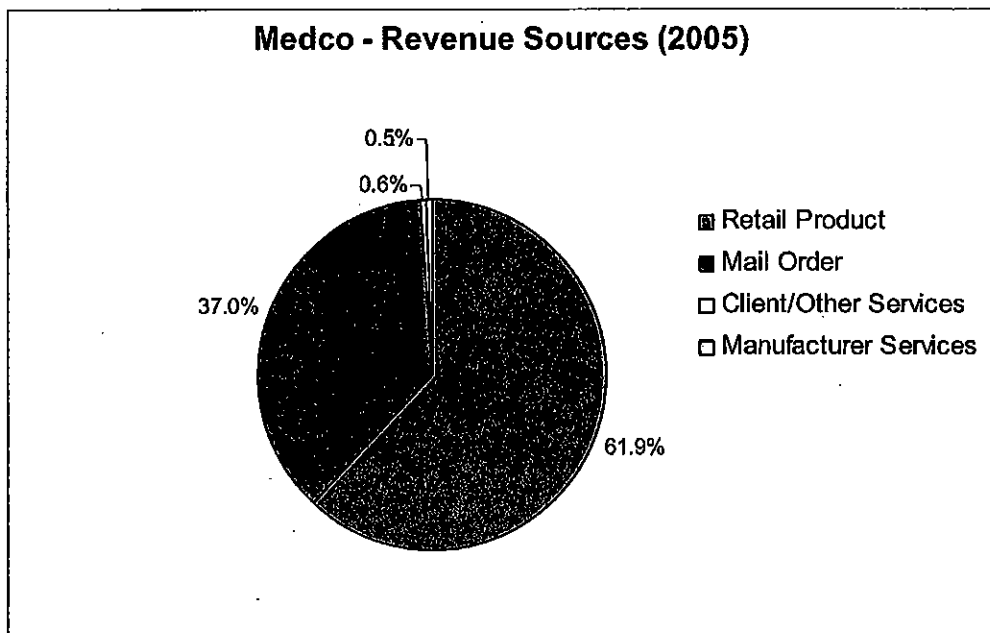
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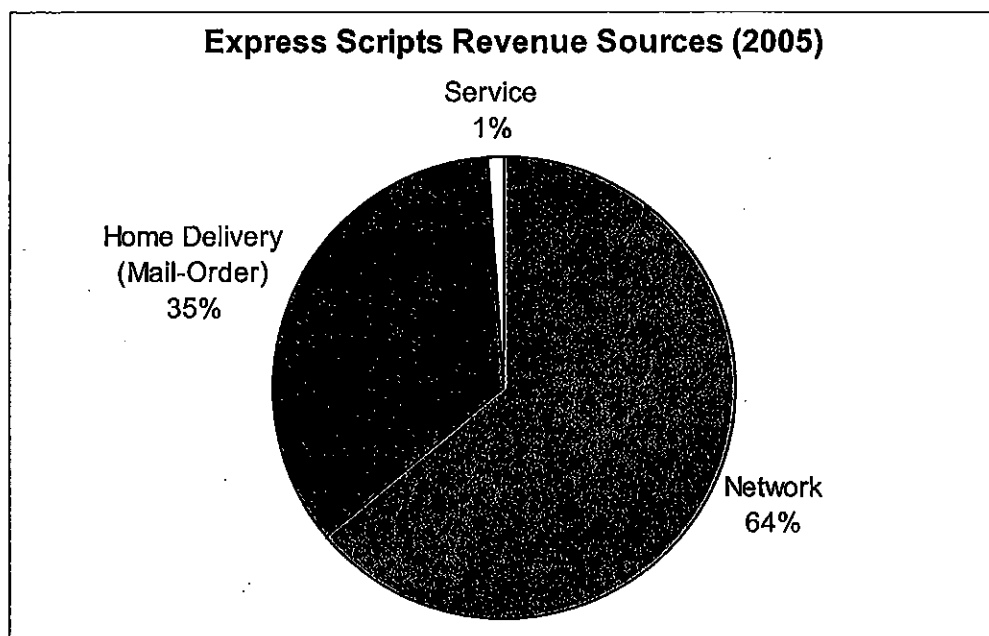
**FIGURE E.1**  
**SOURCES OF NET REVENUES FOR MEDCO HEALTH SOLUTIONS**



**Source:**

Medco Health Solutions Inc., 2005 Annual Report, p.22

**FIGURE E.2**  
**SOURCES OF NET REVENUES FOR EXPRESS SCRIPTS, INC. (ESI)**



**Source:**

Express Scripts 2005 Annual Report, p. 43.

# **Exhibit 4**

## **(Filed Under Seal)**



# **Exhibit 5**

**[FILED UNDER SEAL]**

# **Exhibit 6**

## **(Filed Under Seal)**

# Exhibit 7

1  
2 IN THE UNITED STATES DISTRICT COURT  
3 FOR THE DISTRICT OF MASSACHUSETTS  
4 Case No. 1:05-CV-11148-PBS  
5

6 NEW ENGLAND CARPENTERS HEALTH )  
7 BENEFITS FUND; PIRELLI )  
8 ARMSTRONG RETIREE BENEFITS )  
9 TRUST; TEAMSTERS HEALTH & )  
10 WELFARE FUND OF PHILADELPHIA )  
11 AND VICINITY; and PHILADELPHIA )  
12 FEDERATION OF TEACHERS HEALTH )  
13 AND WELFARE FUND, )

14 Plaintiffs, )

15 vs. )

16 FIRST DATABANK, INC., a )  
17 Missouri corporation, and )  
18 McKESSON CORPORATION, a )  
19 Delaware corporation, )  
20

21 Defendants. )  
22 -----)  
23

24 CONFIDENTIAL VIDEOTAPED  
25 DEPOSITION OF ROSARIA ESPERON  
New York, New York  
Monday, November 6, 2006

Reported by:

FRANCIS X. FREDERICK, CSR, RPR, RMR

JOB NO. 8695

**R. ESPERON - CONFIDENTIAL**

cost?

A. Nothing was said. But -- specifically. But we understood that Express Scripts had not fully transferred all of the NPA clients on to whatever system it was using. Apparently Express Scripts was using a different system, a different platform for computers, et cetera, and we were still in the NPA arrangement at the time that we had that meeting.

So the merger or buy-up, whatever it was, had happened but all the systems had not actually been transferred or the clients had not been transferred to Express Scripts' method of business.

**Q. Did the Express Scripts representatives say anything at the meeting about switching over to the Express Scripts systems going forward?**

A. Yes.

**Q. And what did they say?**

A. They said that they would be doing that. And that they had planned to follow up with us in terms of having there

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representatives come over to train our in-house inquiry personnel to answer for questions for our members on the utilization of that system and giving us access to that system so that we could, you know, see it live; that is, when a member would call up our office and say I'm at the drugstore, I'm having problems, we'd be able to go in and see what the issue was.

**Q. And in connection with that discussion about Express Scripts transitioning your plan from the NPA system to the Express Scripts system, did Express Scripts say that part of that change was going to involve a switch in the source of AWP from Redbook to First Databank?**

A. No. That was not said at that time.

**Q. All right. So your recollection is that there was a mention at the meeting you had with Express Scripts in 2002 or early 2003 about changing the benchmark, the source of the benchmark from Redbook to First Databank; is that right?**

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A. Yes.

**Q. And you don't remember anything more that was said about it.**

A. No. Because, I mean, the conversation basically was focused on how much money we can save but it wasn't -- the source of where the AWP -- what the source was wasn't important at that moment so I don't -- you know, there was really no more discussion about it.

**Q. Did the -- did anyone representing Express Scripts ever say to you that by switching the source of the AWP benchmark from Redbook to First Databank your plan was going to save money?**

A. No. They never said that to us.

**Q. Did anyone from Express Scripts ever say to you that they had noticed that there had been increases in the spreads between wholesale acquisition cost and AWP as reported by First Databank?**

A. No. I wish they had.

**Q. And so I take it nobody from Express Scripts said to you that they were**

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going to be increasing the discounts that they were offering to your plan to reflect those increases in the spread between wholesale acquisition cost and AWP as reported by First Databank?

A. No. They never told us anything about the spreads or never disclosed anything about that.

**Q. All right. But they did tell you that going forward they were willing to give your plan higher percentage discounts off AWP.**

MR. NALVEN: Objection.

A. They said that they were willing to give us in the range of 20, 21 percent, for retail drugs. Brand name retail drugs.

**Q. And was there any discussion about how Express Scripts was able to offer those higher discounts?**

A. They basically made it clear that their volume of business made it possible for them to give us these greater discounts.

**Q. Did you ever get those discounts? Discounts on the ranges that they had said they were offering?**

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# **Exhibit 8**

## **(Filed Under Seal)**

# Exhibit 9

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**From:** Yonko, Greg  
**Sent:** Tuesday, September 18, 2001 2:06 PM  
**To:** James, Robert  
**Subject:** RE: AWP's (draft to Greg)

lets discuss,,

-----Original Message-----

**From:** James, Robert  
**Sent:** Wednesday, September 12, 2001 2:35 PM  
**To:** Yonko, Greg  
**Subject:** AWP's (draft to Greg)

Greg, this is a draft that I wanted to send to Larry Greco, Jack Fragie, Jeff and yourself as we had discussed. Please advise.

As all of you know, we are continually trying to be advocates for our customers relative to AWP's. Whenever we believe that it is appropriate or where we can make a case for increasing supplier markups and ultimately AWP spread, we have been doing it. We have had on-going discussions with First Data Bank and have had some very positive impact recently.

In August we were able to get the Concerta (formerly an Alza product and now JOM) AWP spread raised to 20% from the previous 16 2/3%. Last week we got agreement with First Data Bank on raising the Searle products, which are now part of Pharmacia, to a 20% spread as well as Genotropin which was a Pharmacia product (with a 16 2/3% spread). This may not seem like a big deal but it really has a huge positive impact on the profitability of our customers.

We are setting up all new brand suppliers with a 25% markup (which translates to a 20% AWP spread). There are issues surrounding new companies buying old products with 16 2/3% spreads and just moving them up to 20%. We are talking with First Data Bank about "normalizing" the Brand AWP spreads at 20% because we believe it makes sense for our customers and also for our own efficiency in BIS. Today, when our AWP differs from First Data Bank, BIS has to manually input the FDB AWP's. This translates to a great deal of extra work on every price increase where this situation exists. If all Brand product was at 25% markup none of this manual input would be necessary.

Also, last January we raised the markup to 25% on all Parke-Davis products when they became part of Pfizer. The other wholesalers did not do this and as a result FDB did not increase the AWP spread. I am told that this will most likely be increased in January. This would be very good news for our customers, especially on Lipitor prescriptions.

I believe that our customers would want to know that McKesson is continually working on their behalf in this area.

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# **Exhibit 10**

From: James, Robert  
 Sent: Monday, January 07, 2002 10:21 AM  
 To: Yonko, Greg  
 Cc: Fragie, Jack; Greco, Larry  
 Subject: Omnicare Year End Deals

Greg,

I have been thinking about our discussion about Omnicare wanting some benefit from our "year end" deals, even though it's not written in their contract. A couple of years ago I was pulled into a conference call with Steve somebody (I think) and our McKesson MHS sales person, about how we were hurting them with our AWP's. He came on very strong and was going to call John Hammergren, etc. We calmed him down by explaining our process and tried to make him understand that we were really their advocates and were doing everything possible to "raise" AWP's when appropriate. I haven't heard anything since.

Here is an idea. Two years later, and having had some recent success in raising AWP's, I think this could be presented to him positively in this way.

Omnicare is looking for ..... say \$500,000 in benefit from year end deals, even though this was not part of their contract. We need to ask them to roll up or recalculate their reimbursements for last year based on the new AWP's with a 20% spread. And ..... this is not just a one time benefit. They will receive this now and each year going forward until they renegotiate contracts with third parties (and hopefully do not give up this gift).

Our successes recently and during this past year include raising AWP spreads to 20% (markup of 25%) include Parke Davis (division of Pfizer), Seale (division of Pharmacia), GlaxoSmithKline (Glaxo was at 16 2/3%), AstraZeneca, TAP, Berlex, JOM including Alza and Centocor, parts of Merck and BMS where things were mixed between 16 2/3% and 20%, and more to come. Some of our friends in retail that I have spoken with are pretty overwhelmed that we would be "driving" this process on their behalf. Of course, we are not solely responsible for this "normalizing" of AWP's but we have done our part as I have discussed with you previously. I have had conversations with Albertsons and Safeway and a few others.

Remember, "McKesson is doing this to improve our efficiencies in our BIS group." With mixed AWP spreads, our BIS group is required to make manual overrides (for every pricing activity) to input the First Data Bank AWP whenever there is a difference from our Suggested Sell or List Price. It could be stated as a benefit of the Sixth Sigma method of identifying defects. An "unintended consequence" is that the profitability of our customers will be impacted in a positive way. They will basically get 3 1/3% more profit on Rx's filled with this new AWP spread. (Just imagine what this would mean on drugs like Lipitor or Prilosec.) Another "unintended consequence" is that it would give Managed Care a potential opportunity to contract deeper ..... in other words, take the AWP minus 15% contracts to AWP minus 19%. They can't do that today because of the mixed AWP spreads.

This strategy might be of interest to Jack Fragie, Larry Greco, and others in discussions with our large national accounts, prospective new customers, and buying groups like Servall and IPC (that are continually asking for lower costs, more added value, and discounts beyond their contract language ..... like Owens programs). We have an opportunity to "market" our efforts now. If we do not do this, it's possible that some of these accounts will believe that this stuff just happens and the efforts will go unrecognized. In my discussions, one of the comments that was made was "this would certainly be a good reason to renew our agreement with McKesson when its time." Talk about being good partners, wow! This is worth further discussion as we go forward. Maybe, a proactive strategy like this will soften some of the activity around asking for lower costs and more benefit.

Take care.

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# Exhibit 11

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**From:** James, Robert  
**Sent:** Friday, April 12, 2002 2:55 PM  
**To:** Lirette, Karl; Clinkscates, Paul  
**Cc:** Yonko, Greg  
**Subject:** Avonex & Copaxone

Just a note to let everyone know that "I am told" that the mark up on Avonex and both the old and new sku's of Copaxone will be changed to 25% (to create a 20% spread on WAC/AWP) next week. This will appear in the McKesson First DataBank download one week from tomorrow (if everything works properly) and then the changes will be made in DITM for the following week. Yes!!

Also, I am told that the big insurance companies will have this updated within a couple of days of receiving FDB information, but the States only update monthly so that may take a little longer depending on the timing. This should make a significant contribution to your profitability as illustrated by the following example using a reimbursement of AWP - 15% plus \$2.00 fee.

Avonex at 16 2/3% spread, profit would be \$18.42.....and now at a 20% spread, profit would be \$51.31....not bad!  
This is an increase of \$32.89 per script.

Copaxone at 16 2/3% spread, profit would be \$19.72.....and now at a 20% spread, profit would be \$57.39....pretty good!  
This is an increase of \$37.67 per script.

Take care.

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